

Supreme Court, U. S.

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In the
Supreme Court of the United States

OCTOBER TERM, 1977

No.

77-1475

ELECTRONICS CORPORATION OF AMERICA,
PETITIONER,

v.

SCULLY SIGNAL CORPORATION,
RESPONDENT.

**PETITION FOR WRIT OF CERTIORARI TO
THE UNITED STATES COURT OF APPEALS
FOR THE FIRST CIRCUIT**

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TABLE OF CONTENTS

	Page
Opinions Below	1
Jurisdiction	2
Questions Presented	2
Constitutional Provisions, Statutes, and Rules Involved	4
Statement	4
Reasons for Granting the Writ	9
Conclusion	18
Appendix A:	
Opinion of the United States Court of Appeals for the First Circuit	A- 1
Judgment of the United States Court of Appeals for the First Circuit	A-20
Order Denying Petition for Rehearing, January 18, 1978	A-21
Order of the Supreme Court of the United States Extending Time to File Petition for Writ of Certiorari	A-22
Opinion of the United States District Court for the District of Massachusetts, February 7, 1977	A-23
Judgment of the United States District Court for the District of Massachusetts, February 8, 1977	A-62
Appendix B	A-63

TABLE OF CITATIONS

Cases

<i>Air Shields, Inc. v. Air Reduction Co., Inc.</i> , 331 F. Supp. 673 (N.D. Ill. 1971), <i>aff'd.</i> , 474 F.2d 1351 (7th Cir. 1973)	16
<i>Beckman Instruments, Inc. v. Chemtronics, Inc.</i> , 428 F.2d 555, 165 USPQ 355 (5th Cir. 1970)	15, 16

	Page
<i>Blonder-Tongue v. University of Illinois Foundation,</i> 402 U.S. 313 (1971)	10, 17
<i>Lear, Inc. v. Adkins</i> , 395 U.S. 653 (1969)	6, 9
<i>Maurice A. Garbel, Inc. v. Boeing Co.</i> , 546 F.2d 297 (9th Cir. 1976)	16
<i>Multi-District Litigation involving Frost Patent, In re:</i> , 308 F.Supp. 1383, 185 USPQ 729 (D. Del. 1975), <i>aff'd.</i> , 540 F.2d 601 (3d Cir. 1976)	12
<i>Norton v. Carborundum Co.</i> , 397 F.Supp. 639, <i>affirmed</i> , 530 F.2d 435 (1st Cir. 1976)	14, 15, 17
<i>Precision Instrument Manufacturing Co. v. Automotive Machinery Co.</i> , 324 U.S. 806 (1945)	9
<i>Triplett v. Lowell</i> , 297 U.S. 638 (1938)	17
<i>Union Carbide Corp. v. Feltrol Corp.</i> , — F. Supp. —, 170 USPQ 482 (C.D. Cal. 1971)	7
<i>Walker Process Equipment, Inc. v. Food Machinery & Chemical Corp.</i> , 382 U.S. 172 (1965)	9
<i>W.F. Altenpohl, Inc. v. Gainesville Mach Co.</i> , — F. Supp. —, 185 USPQ 492 (N.D. Ga. 1975)	7
<i>Constitutional Provisions</i>	
United States Constitution, Art. 1, §8, cl. 8	4
<i>Statutes</i>	
28 U.S.C. §1254(1)	2
35 U.S.C. §102	4, 6, 9, 14
§103	4, 6, 14
Federal Rules of Civil Procedure, Rule 15(b)	1, 2, 4, 16

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Petitioner prays that a writ of certiorari issue to review that part of the judgment of the United States Court of Appeals for the First Circuit which affirmed the district court's denial of defendant's motion to amend its answer under Fed. R.Civ. Proc. 15(b) or conditionally, for a new trial.

Opinions Below

The opinion of the District Court for the District of Massachusetts was not reported. The opinion of the Court

of Appeals for the First Circuit is reported at — F.2d —, 196 USPQ 657. The opinions are printed in Appendix A, *infra*, p. A-1 and p. A-23.

Jurisdiction

The judgment of the Court of Appeals was entered December 29, 1977, printed, *infra*, p. A-20. Respondent petitioned for rehearing which was denied by an Order entered January 18, 1978, printed, *infra*, p. A-21. Mr. Justice Brennan granted petitioner's motion to extend time to file this petition until April 18, 1978, printed, *infra*, p. A-22. The jurisdiction of this Court is invoked under 28 U.S.C. 1254(1).

Questions Presented

This is a suit for patent infringement, in which evidence of the misconduct of the plaintiff before the Patent Office was first discovered by defendant during the trial, and introduced in evidence without any objection by the plaintiff.¹ Defendant (petitioner herein) at the close of the evidence moved orally to amend its answer to conform to the newly discovered evidence and to allege fraud on the Patent Office. At the request of the District Court, defendant filed a written motion under Rule 15(b) to amend the answer. In view of plaintiff's motion to strike the evidence of plaintiff's misconduct, defendant also moved conditionally for a new trial. The District Court denied defendant's motion on the grounds that the issue was not

¹ While in footnote 7 of the District Court opinion the court stated "It is not fair to say that plaintiff did not object," the fact of the matter is that the plaintiff did not object on any grounds to the introduction of the evidence in question. Plaintiff argued, rather, that there was no duty to disclose such prior art to the Patent Office at that time, the issue presented by this petition.

fully tried and refused to reopen the evidence. The Court of Appeals affirmed.

The questions presented are:

1. Whether the decisions of this Court which state that an applicant for patent has an uncompromising duty of utmost candor in proceedings before the Patent Office admit of a rule of law which holds that the duty to disclose admittedly relevant prior art arises only for evidence showing exact anticipation in a single prior art reference, 35 U.S.C. §102, and no such duty exists as to obviousness 35 U.S.C. §103.

2. Whether the conflict in the Circuits in applying the criteria for finding fraud on the Patent Office will be resolved by this Court particularly as to whether there was a lower standard for disclosure which was acceptable prior to the mid-1960's, absent proof of the "state of mind" of the patentee.

3. Whether fraud clearly established as to the broad monopoly expressly defined in the broad claims of a patent can be made innocuous by the trial court through the device of holding that the patent is limited to its narrower claims to a lesser monopoly, thus immunizing the applicant from the consequences of such fraud, especially where the broad monopoly of the other claims has been asserted in the industry throughout the entire seventeen year period of the patent grant.

4. Whether a motion to amend the answer made promptly after evidence of fraud on the Patent Office was newly discovered and admitted in evidence without objection, can be denied on grounds extraneous to the issues raised by the motion.

**Constitutional Provisions, Statutes
and Rules Involved**

Article I, §8, cl. 8, of the Constitution, the patent statutes relating to validity over the prior art 35 U.S.C. §§102, 103 and Fed. R. Civ. Proc. Rule 15(b) are involved. The text of each of these provisions is printed in Appendix B.

Statement

Because both the trial Court and the Court of Appeals referred to certain conduct of defendant and defendant's counsel as influencing the decision of each court on the issue of fraud, a brief reference to the initial proceedings at the trial is included in the statement of the case. See the trial court's treatment of those proceedings in Appendix A, pp. A-23 *et seq., infra.*

This suit for patent infringement was filed October 1, 1968 and Order of Notice under Local Rule 22 for dismissal for want of prosecution was entered January 13, 1975.

On November 21, 1975, the Senior Circuit Judge for the First Circuit, sitting as the trial court, held a pretrial conference. During that conference, the court set the trial to commence on December 15, 1975, later set for December 30th. The court denied a motion of defendant's lead counsel for a continuance on December 29th. When the case was called at 10:00 a.m. on December 30th, defendant's lead counsel was engaged in an adjacent courtroom as defense counsel in the trial of a \$750,000 Federal Treasury Note theft case, at which time the judge was giving the charge to the jury. The trial judge in the criminal case had previously entered a protective order providing that defendant's lead trial counsel would not engage in any other matter until that trial was completed. Patent counsel for defendant did not appear at 10:00 a.m., on December 30th, because he had been instructed by defendant not to appear without lead counsel. Rather, an associate of the lead counsel appeared

who explained the circumstances surrounding the absence of lead counsel to the court. On the representation by that associate that defendant's lead counsel would be the principal examiner of the witnesses, the Court granted a continuance until 2:00 p.m. the afternoon of December 30th. The trial began that afternoon. The plaintiff's case proceeded until the time for cross-examination of plaintiff's first technical expert witness, at which time patent counsel, rather than lead counsel, conducted the cross-examination. The trial court noted that such was not the representation on which the continuance from 10:00 a.m. to 2:00 p.m. had been granted, and stated that it would reserve action against defendant (for contempt) until close of trial.

Midway through trial, defendant's lead counsel became ill, and during the continuance granted on that account, defendant discharged its patent counsel. When trial resumed, the Court heard a motion by new patent counsel for a two week continuance and for the introduction into evidence of two prior art patents, referred to as Dowling I and Dowling II. The Court accepted the Dowling patents in evidence but granted a continuance only until noon the next day at which time the trial resumed, with the defendant being represented by new patent counsel. The trial proceeded that afternoon and was concluded in one additional day.

Just prior to resumption of defendant's case in chief the inventor of the patent in suit, Mr. Rowell, showed defendant's counsel three memoranda he had written in 1954 and other documents showing that prior to filing the patent application, Mr. Rowell and plaintiff's counsel were fully aware of the relevance and materiality of the Dowling patents. The documents showed correspondence with a prospective licensee, Minneapolis Honeywell Company, whose patent counsel noted that this prior art "fully anticipates" the invention of the patent in suit. On the next

(and last) trial day, defendant asked for a conference in chambers to disclose the newly discovered memoranda and other evidence as relating to possible fraud on the Patent Office. Thereafter, such documents and testimony thereon were offered and received in evidence without objection by plaintiff, whose counsel admitted that he was aware of the Dowling patents and other evidence during the prosecution of the patent in suit. Direct and cross-examination of Mr. Rowell, the inventor, showed that Mr. Rowell had written certain memoranda attempting to distinguish his invention from Dowling II in 1954 and had revised his opinion in 1954 to agree, in part, with Honeywell. All such correspondence and memoranda were known to plaintiff's counsel while the patent application was pending.

At the close of trial, defendant moved to amend the answer, based on the newly discovered evidence which had been admitted without objection, to allege that plaintiff had been guilty of misconduct in failing to bring the Dowling patents, and evidence relating thereto, to the attention of the Patent Office during the prosecution of the patent in suit. The court requested that this motion be in writing, with a supporting memorandum. By letter to counsel, the Court invited plaintiff to file a motion to strike the Dowling patents. Defendant filed its motion to amend the answer to add a counterclaim based on the alleged fraud and conditionally moved for a new trial if the Dowling patents and materials relating thereto were stricken.

The plaintiff did file a motion to strike, but that motion was denied on the authority of *Lear, Inc. v. Adkins*, 395 U.S. 653 (1969).

The court denied defendant's motion to amend or for reopening the evidence based on its view that in the 1950's the express duty of disclosure related only to references which invalidated the patent under 35 U.S.C. §102, (anticipation) and not to references which invalidated the patent

under §103, based on obviousness. The court also held that two of the cases cited by defendant instead of supporting its view that the full duty of candor before the Patent Office existed in the 1950's and was not merely developed by court decisions since the mid-1960's rather supported the court's view that there was no duty to cite non-anticipatory prior art in the 1950's, even though such prior art would invalidate the patent under 35 U.S.C. §103. The court stated that "I regret to note that these cases [(*Union Carbide Corp. v. Feltrol Corp.*, 170 USPQ 482 (C.D. Cal. 1971) and *W.F. Altenpohl, Inc. v. Gainesville Mach. Co.*, 185 USPQ 492 (N.D. Ga., 1975)] are totally miscited." Appendix A, p. A-35, *infra*. The court held that the amendment to the answer would require reopening of the evidence, since the issue as to whether plaintiff was guilty of equitable fraud required proof of "state of mind," and because of the court's broad view of the duty of candor which applied in the 1950's. The court declined to reopen the evidence based on what it considered to be defendant's misconduct:

Nothing about defendant's conduct, or showing, persuades me to [reopen the evidence.] By deliberate disregard of its obligations to the court by its December 30th conduct, and by its discharge of patent counsel in the middle of trial and incommodeing the court for reasons that existed, to defendant's knowledge, well before trial, defendant has exhausted my discretion * * *. Consequently, even if plaintiff were guilty of equitable fraud, the issue is not open, and I assume the contrary.

In lieu of contempt proceedings for defendant's instructions to original patent counsel not to attend trial in the absence of lead counsel, the trial court awarded attorney's

fees to plaintiff in the amount of \$5,000. That award was not appealed to the Court of Appeals by defendant, is not challenged in this petition, and is irrelevant to any of the issues raised by the petition.

The Court of Appeals affirmed the trial court's findings of invalidity of the patent, and held that the trial court did not exceed its discretion in denying defendant's motion to amend the pleadings or reopen the evidence. In affirming the trial court's denial of defendant's motion, the Court of Appeals relied upon the following factors which petitioner here specifies as error relevant to the issue of fraud:—

1) That further evidence would be necessary to resolve the issue of fraud, which requires proof of state of mind;

2) That the Dowling patents:

a) did not anticipate the Rowel '214 patent in suit, and/or

b) would not have affected the prosecution of the patent, and

c) that closer prior art was considered by the Patent Office;

3) That the issue either had not been tried or was tried without plaintiff's consent; and

4) That ECA in its post trial briefing on the issue had attempted to mislead the court as to the extent of an inventor's duty of disclosure at the time the Rowell patent was prosecuted.

Reasons for Granting the Writ

This petition seeks review of the lower courts' refusal to deal with a palpable case of fraud on the Patent Office which was proved at trial by evidence directly from the inventor of the patent in suit, where the facts of knowledge of the references and memoranda of their relevance and concealment were not denied by the plaintiff. The District Court absolved plaintiff of the consequences of the fraud by holding that, short of anticipation under 35 U.S.C. §102, there was no duty to disclose prior art known to be material despite this Court's decisions which hold the patent applicant to an uncompromising duty of utmost candor. *Precision Instrument Manufacturing Co. v. Automotive Machinery Co.*, 324 U.S. 806, 816 (1945); *Walker Process Equipment, Inc. v. Food Machinery & Chemical Corp.*, 382 U.S. 172 (1965). The Court of Appeals affirmed the District Court's refusal to treat the issue on the merits as not exceeding the lower court's discretion.

There can be no doubt about the proof of fraud. The inventor, plaintiff and plaintiff's counsel (the same attorney for plaintiff throughout all Patent Office and Court proceedings here involved) knew of the Dowling patents, the inventor's memoranda thereon and the Honeywell attorneys' opinion of full anticipation in 1954 before and immediately after the patent application was filed. The trial Court held under *Lear v. Adkins, supra*, that the inventor was free to attack his own patent. Once in evidence, the inventor's testimony corroborating both his and plaintiff's attorney's knowledge of the facts in 1954, and the 1954 memoranda, establishing the materiality of that knowledge, establish the fraud and consequent damage to defendant. No state of mind need be proved beyond that self-evident from the withholding of this evidence from the Patent Office continuously during the prosecution of the

patent (1954-1957), the withholding of the same references from the defendant during the attempt to license defendant (1956), and the withholding of these references from the court during the time period from the filing of the complaint in the present litigation in 1968, through the filing of a similar suit against a different defendant in 1972, and the trial of this case up to the last trial day. All of these acts were conducted without disclosing the Dowling patents and memoranda, despite their relevance as shown by the comments of both the inventor and Honeywell's patent attorney.²

On appeal and by petition for certiorari,³ plaintiff has continued to urge that it has done nothing wrong and that its patent is valid. Thus the vexatious expense of unwarranted patent litigation analyzed in *Blonder-Tongue v. University of Illinois Foundation*, 402 U.S. 313 (1971) has been imposed solely because of the fraud on the Patent Office and continues because the lower courts have refused to acknowledge fraud when it is plainly established on the record.

On this issue the trial court committed an error of law; the court said:

² The trial court erroneously attributed significance to the fact that Honeywell eventually did take a license from plaintiff. The Honeywell license is a prime example of the economic evils of the power to litigate invalid patents reviewed in detail in *Blonder-Tongue, infra*. After stating in 1954 that the Dowling II patent "fully anticipates Scully" [i.e., the Rowell invention here in suit] Honeywell took a license in 1960 (on six U.S. and six Canadian Scully patents) after extended negotiations subsequent to issue of the patent in 1957. The definition of the royalty-bearing structure in the license was so narrowed to recite specific circuit details of the Honeywell apparatus that, as to such very narrow scope, Dowling II did not anticipate. Defendant's equipment would have avoided all liability under the definition of the Honeywell license. Hence as broadly asserted against defendant, the patent cannot be said to be valid by virtue of the Honeywell acceptance of a license. As so asserted, the fraud perpetrated by withholding the Dowling patents from the Patent Office is unabated whatever the reason Honeywell eventually took a license.

³ As advised, to be filed by plaintiff.

When defendant was speaking of claiming fraud on the Patent Office I said I thought that in the 1950's the express duty of disclosure related to section 102, anticipation, and the extent of duty to volunteer *merely possible* relevant art was less defined than at present. (emphasis added)

That the Dowling II patent was not "merely possibly relevant art" is clear from the categorical statement in 1954 by Honeywell that it "fully anticipates Scully" and the proofs which show the Dowling II patent provides the prior art teaching of all of the essential features of the broadly claimed invention, including:

(1) *The feedback control of the light shutter in response to operation of the system.* This issue was explicitly before the patent examiner and explicitly recited as the basis for rejecting claims because the claims did not confine themselves in the feedback feature. *There was no prior art considered by the Patent Office which contained the feedback feature*, and thus the Dowling II patent which does disclose this feature, was more relevant than the art cited by the Patent Office on a contested issue.

(2) *Fail safety for the entire checking system including the sensor (photocell).* The argument that this feature was not disclosed in any prior art was relied upon heavily before the Patent Office and both lower courts in attempts to distinguish the Rowell "invention" over the prior art cited by the patent examiner.

(3) *The alleged inventive combination of Rowell in using "precise simulation" and a fail safe monitor of the signal interruptions.* Dowling II teaches the substitution of its own Fig. 8 as the fail-safe monitor of the circuit interruptions thus eliminating the unsafe

failures of the simple galvenometer-type monitor of Dowling I, and making the substitution of other prior art fail-safe decoders readily available for the patent examiner to apply against the Scully claims if he had had Dowling II before him as prior art.

(4) *"Precise simulation" of flame monitoring on which Scully has based the validity of the patent is expressly disclosed in Dowling II* where the apparatus disclosed is specifically suggested for use in monitoring a burner mantle flame or lamp in a lighthouse. The trial court overlooked this disclosure in Dowling II, yet that court found no other shortcoming in the Dowling II reference which would prevent Dowling II from being a complete anticipation of at least the broad claims of the patent in suit. In fact, that court did not hold that Dowling II failed to anticipate at least the broad claims of the patent in suit, even *erroneously* assuming "precise simulation" was not disclosed in Dowling II. Rather, the court said that that limitation in the broad claims *might* be enough to avoid anticipation. See the court's footnotes 11 and 15, Appendix A, *infra*, pp. A-33 and A-40-41.

It is for the patent examiner to decide the relevance and anticipatory effect of such references based on complete candor on the part of the applicant, rather than having the issue reserved for some later date with industry, meanwhile, subject to the dominance of the broadly drawn patent asserted to cover the very type of circuit which the applicant himself withheld from the patent examiner. *In re Multi-District Litigation involving Frost Patent*, 308 F. Supp. 1383, 185 USPQ 729 (D. Del. 1975), *aff'd*. 540 F.2d 601, (3rd Cir. 1976).

The trial court held (and the Court of Appeals specifically noted) that the Patent Office considered numerous

patents far more relevant than Dowling, a holding that is clearly erroneous in view of the items (1)-(4) in the preceding paragraph. Based on this erroneous finding the court concluded

"... I cannot imagine that citing Dowling would have affected the Patent Office proceedings"

However, the error of the trial Court's view that Dowling would have been inconsequential in the Patent Office prosecution was established by the trial court's own inconsistent position when it stated (Appendix A, *infra*, p. A-40-41, footnote 15) :

In effect, by referring to the specifications, I consider the invention disclosed to be that described in claim 20. Every diagram and all of the descriptions in the patent are of such devices. If I read the patent to include the full generality of claim 14, then, unless the matter of precise simulation of the event, *see post*, were found relevant, '214 would be invalid over various prior patents such as Werner, Ludwig, and the Dowling patents, as well as the closer art which I find to invalidate even a narrowed reading of the patent, *see post*. (emphasis added)

The trial court itself thus held the Dowling patents to invalidate the broad patent claims. As stated in item (4), above, Dowling II explicitly teaches the "precise simulation" identical to the alleged infringing device used for burner flame monitoring, since Dowling states that the device can be used to monitor "incandescent mantles or lamps in lighthouses or the like" (Dowling II is dated 1925-27, an era when lighthouses were lit by a burner flame). Thus even the use of "precise simulation" as argued exten-

sively to the lower court as a basis for validity of the patent could not accurately have been argued to the Patent Office as a distinguishing basis if Dowling had been made of record there.

It may be that the narrowing of a patent by the Court to avoid invalidity over certain prior art can, at times, be justified if the claims are ambiguous and can be interpreted to be not confined to the scope of the actual invention. It is submitted, however, that this court-made rule of interpretation has no applicability to the present case. When the issue is fraud on the Patent Office, a patent should not be narrowed by the court for the express purpose of negating fraud, because that would encourage applicants to minimize disclosure of relevant prior art to the Patent Office, and thus maximize the broad scope of patents issued by that Office. The decisions of the lower courts in this case are inconsistent with and impermissibly expand the law of *Norton v. Carborundum*, 397 F. Supp. 639, *affirmed*, 530 F.2d 435 (1st Cir. 1976). There the first question before the Court was whether claim 1 of the patent was broad enough to encompass a bauxite mix. If it was, the patent was unenforceable for failure of the patentee to cite a pertinent prior patent of which he was aware; if the claim was not so broad, the patentee was not considered guilty of inequitable conduct. The court, interpreting the claim narrowly, held there was no inequitable conduct.

By contrast, in the present case, there is no question that at least some of the claims, e.g., claim 14 and 17-19, were so broad as to be invalidated by the withheld Dowling patents as acknowledged by the trial Court. While the trial Court prefers to read the patent narrowly, it is not proper to do so by ignoring the broad claims, which are believed to be anticipated under Section 102 of the Statute and unquestionably are invalid under Section 103. The Court's opinion in essence confirms that claims which are not re-

stricted to the scope of claims 20 or narrower, i.e., claims 14 and 17-19, were granted patent protection, and such claims would not have been obtained but for the withholding of the pertinent art. Having obtained invalid claims by withholding prior art, the patent is invalid and unenforceable, and this result is not avoided if there are other, narrower claims which are not invalidated by the art withheld. *Beckman Instruments, Inc. v. Chemtronics, Inc.*, 428 F.2d 555, 165 USPQ 355 (5th Cir. 1970). As the trial judge stated in the trial Court opinion in *Norton C. v. Carborundum Co.*, *supra*:

"I am in full accord with the court in *Beckman Instruments, Inc.*, that if misconduct prevents enforcing the claim as made, it is no answer that it would not have operated against a narrower one. That, however, is not this [*Norton*] case because I have interpreted the claim itself as being narrow."

The situation discussed by the trial judge as *not* being presented in the *Norton* case, and which was presented in the *Beckman* case, was *precisely* the situation before the lower courts in this case. It is submitted that the narrowed view of the *Norton* case has no pertinence here, and the patentee cannot excuse his misconduct before the Patent Office on the grounds that it only applied to the broader (and thus more powerful) claims. Were it otherwise, patent applicants would be free to practice fraud before the Patent Office by maintaining, in addition to their broad claims, narrow claims as to which an argument could be later made that the withheld prior art might not apply. In the present case, the significance of withholding the Dowling patents, particularly Dowling II, from the Patent Office during prosecution of the patent is such that there is no viable basis for the court to contend that the withholding and misrepresentation with respect to the Dowling II pat-

ent was inconsequential. See also the holding of the Court of Appeals for the Fifth Circuit in *Beckman Instruments, Inc. v. Chemtronics, Inc.*, 439 F.2d 1369 (5th Cir. 1970), *cert. den.* 400 U.S. 956 (1970); of the Court of Appeals of the Ninth Circuit in *Maurice A. Garbel, Inc. v. Boeing Co.*, 546 F.2d 297 (9th Cir. 1976), and *Air Shields, Inc. v. Air Reduction Co., Inc.*, 331 F. Supp. 673 (N.D. Ill. 1971), *aff'd.* 474 F.2d 1351 (7th Cir. 1973), each of which applied the duty of candor enunciated by this Court in *Precision Instruments, supra*, to prosecution before the Patent Office.

There is no justification for the drastic pruning of the patent monopoly by disregarding broad, fraudulently obtained claims and exonerating the patent owner on the grounds that he did not practice fraud before the Patent Office with regard to some more limited claim contained within the patent. The opposite trend should be the rule since the patent owner enjoys the benefit (and the involved industry labors under the threat) of the broad patent monopoly so long as the fraud goes undiscovered. At the day of reckoning to award the patent owner whatever residual monopoly the court can fashion which is purportedly free of the fraud charge negates the very rule of conduct demanded by this Court. The fact that the broad monopoly was exercised with full knowledge of its infirmity should not only strike the patent *in toto* but guarantee restitution to the persons injured by the knowing assertion of the fraudulently obtained monopoly.

Defendant has been damaged financially by this unwarranted litigation based on a worthless patent which would not have issued from the Patent Office if plaintiff had not, knowingly and deliberately, withheld the Dowling patents from the Patent Office. Rather than rewarding such behaviour by plaintiff, the lower courts should compensate defendant for its loss. The defendant's motion under Rule 15(b) was proper and directed to that end. This petition

seeks to have the Court establish authoritatively that an abused patent monopoly, as in this case, calls for appropriate sanctions.

The economic consequences of fraud on the Patent Office are at least as onerous as the ability to relitigate patent validity struck down in *Blonder-Tongue v. University of Illinois Foundation*. In that case, this Court was urged to sustain the rule of mutuality of estoppel, *Triplett v. Lowell*, 297 U.S. 638 (1938) by the same counsel (who admitted it would be against his client's interest in that case) that now urges on the Court validity of the Scully patent despite its total invalidity shown by the lower court opinions which ignored the fraud issue. By pursuing validity to this Court the plaintiff relies both on the error with which the First Circuit interprets this Court's decisions requiring candid disclosure before the Patent Office and the procedural obstacles that have been raised to prevent consideration of the issue in this particular case.⁴ The present petition for certiorari is necessitated by the erroneous rule of law now established in the First Circuit by the appellate affirmance in this case and in *Norton, supra*.

For the reasons given above, it was error for the courts below to deny defendant's motion to amend the Answer to conform to the evidence. In view of plaintiff's egregious misconduct before the Patent Office, defendant is entitled to the relief sought in its motion to amend. The needless expense and time consumed in this litigation would never have been occasioned if plaintiff had not withheld the Dowling patents from the Patent Office.

⁴ As the trial court said: "There were questions that I, myself, would have liked to ask, had that issue been pleaded before trial instead of afterwards."

Conclusion

For the foregoing reasons, the petition for a writ of certiorari should be granted.

Respectfully submitted,

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APPENDIX A

United States Court of Appeals For the First Circuit

No. 77-1133

SCULLY SIGNAL COMPANY,
 PLAINTIFF, APPELLANT,

v.

ELECTRONICS CORPORATION OF AMERICA,
 DEFENDANT, APPELLEE.

No. 77-1144

SCULLY SIGNAL COMPANY,
 PLAINTIFF, APPELLEE,

v.

ELECTRONICS CORPORATION OF AMERICA,
 DEFENDANT, APPELLANT.

APPEALS FROM THE UNITED STATES DISTRICT COURT
 FOR THE DISTRICT OF MASSACHUSETTS
 [Hon. BAILEY ALDRICH, U.S. Circuit Judge]

Before
 COFFIN, *Chief Judge*,
 LAY, *Circuit Judge*,**
 CAMPBELL, *Circuit Judge*.

Robert H. Rines, with whom *Rines & Rines* was on brief, for Scully Signal Company.

Charles E. Pfund, with whom *Dike, Bronstein, Roberts, Cushman & Pfund*, *Sewall P. Bronstein*, and *David G. Conlin* were on brief, for Electronics Corporation of America.

** Of the Eighth Circuit, sitting by designation.

December 29, 1977

CAMPBELL, Circuit Judge. This suit for infringement of a 1957 patent was brought in 1968 by Scully Signal Co. (Scully), the assignee of the patent and its licensor. Electronics Corporation of America (ECA), the defendant, alleged both noninfringement and invalidity. The patent expired before trial, leaving only damages at issue. The case was tried in December, 1975 and January, 1976, and at the end of the presentation of evidence ECA moved to amend its pleadings to allege fraud against the Patent Office by Scully because of a failure to reveal allegedly anticipatory patents, which in turn would entitle ECA to damages. The district court held that ECA had infringed the disputed patent, and went on to hold that the patent had not been anticipated within the meaning of 35 U.S.C. § 102¹ but was invalid for obviousness under 35 U.S.C. § 103. Denying ECA's motion to amend the pleadings, the court awarded attorneys fees to the plaintiff because of "exceptional" conduct on the part of ECA.

On appeal, Scully vigorously challenges the district court's determination of obviousness, accusing the court of substituting hindsight for a proper assessment of the level of ordinary skill in the pertinent art at the time of the supposed invention. ECA in a cross appeal seeks to overturn the district court's denial of its motion to amend the pleadings, although it does not appeal the award of attorneys fees to Scully.

Obviousness under 35 U.S.C. § 103

The patent in question, No. 2,798,214, W.G. Rowell, Checking Technique and System ("Rowell '214"), de-

¹ The court said, in a comprehensive opinion,

"[The] section 102 defense . . . must be made out by a single invention. See *Columbia Broadcasting Sys. v. Sylvania Elec. Prod., Inc.*, 1st Cir., 1969, 415 F.2d 719, cert. denied, 396 U.S. 1061. As will become apparent in my discussion of the prior art, I find no such single anticipatory invention."

scribes a technique designed to incorporate "fail-safe" features into machines or systems whose unsafe failure would present dangerous consequences. The technique combines a monitoring system, a failure simulator, and a self-checking circuit that will activate an alarm and take corrective measures whenever either the unsafe condition appears or the checking system itself breaks down. As the word "fail-safe" implies, the system is designed to shut off the machine it regulates whenever anything goes wrong, even if the machine itself is operating as intended.

Rowell assigned the patent to his employer, Scully, which in turn sought licensees to manufacture devices applying the patented system. In particular Scully offered nonexclusive licenses to ECA and Minneapolis-Honeywell Regulator Co. (Honeywell), the principal manufacturers of burner control devices. While the patent does not show a burner monitor application, the district court found that a use "would be obvious to anyone minimally skilled in the art," and this is not disputed. After satisfying itself as to the validity of the patent, Honeywell took a license in 1960. The license was limited to

"[t]he field of flame detection in which a flame sensing means is arranged to detect the presence or absence of flame, provided the flame sensing means is connected to the input of an electrical amplifier having a feedback in the form of a relay controlling a chopper switch means or other chopper member disposed at or before the input of the amplifier for controlling the feedback so that the relay normally is caused to repetitively cycle upon the flame sensing means detecting a flame or detecting the absence of flame, as the case may be, there being a further switch means controlled by the relay to alternately and repetitively connect a capacitor to a source of energy to charge the capacitor and then to connect the charged

capacitor to an electrical device (load) normally to maintain the electrical device (load) continuously energized only so long as the relay continues to cycle."

A diagram used by the district court, which we attach as Appendix A, illustrates this description more clearly. When the detector (5) picks up the light, an amplifier (6) transmits the signal to relay coil (7). When so charged, the relay coil holds the relay arm (8) in place with contact (9), which completes a circuit between the battery terminals (B+) (B-), a storage capacitor (11), and a resistor (12) that regulates the current. When the interrupter (3) blocks the light, relay (7) receives no charge, the first circuit is broken as arm (8) drops to contact (10), and a new circuit is formed between the capacitor (11), the resistor (12), and the load relay (14). A small capacitor (13) draws off some of the current from this circuit. As long as current flows through it, the load relay (14) holds the arm (15) to contact (16), which may be a ground or some other circuit, signalling all is well. If current were to stop passing through the load relay (14), however, the arm (15) would drop to contact (17), setting off the alarm (18) and cutting off oil to the burner.

Current passes through the load relay (14), holding off the alarm, as long as a proper cycle between the two circuits is maintained. The continual charging occurs because the capacitors (11) and (13) each have the property of storing and dispensing current, depending on whether a stronger power source is attached to the circuit. When the light is on, capacitor (11) is storing energy from the battery (B+) (B-), and capacitor (13) is giving off current to the load relay (14). When the light is off, capacitor (11) is giving off current to charge the load relay (14) and associated capacitor (13). Because each capacitor has only a limited storage capacity, however, each must be re-

charged continually by alternate completion of the two circuits. The choice of the components determines the proper rate for the cycle. Although the diagram does not show it, the solenoid (1) that operates the shutter (3), which in turn controls the alternating periods of light and darkness that trigger the respective circuits, can itself be hooked into one of the circuits so that it may respond to the cycle it controls. This "feedback" feature was mentioned in the patent, although the invention was meant to be used with or without this modification, and incorporated into the Honeywell license.

ECA refused Scully's offer of a license, citing the added cost of installing the self-checking system in burner monitors already on the market. In 1967, however, ECA brought on to the market its own self-checking burner monitor, the Fireye UVP-4S. The ECA device differed in material respects from that sold by Honeywell only in that it relied on an independent timer for the flame-interrupting shutter rather than on feedback.

Scully's licensing arrangement with Honeywell continued until its expiration in 1975, Honeywell's payments totalling over \$400,000 during the fifteen year period. It is notable that in 1954 Honeywell itself drew Scully's attention to the two patents which ECA alleges Scully's fraudulently concealed from the Patent Office, and thereafter accepted a license notwithstanding its awareness of them.

At trial the district court considered several patents which were alleged to anticipate Rowell '214. These included No. 2,659,880, A.E. Dodd, Apparatus for Detecting Recurrent Circuit Operation (Dodd); No. 2,605,334, C.H. Hines, Circuit Integrity Indicating System (Hines); German Patent No. 898,564, Ludwig, Photoelectric Security Installation (Ludwig); German Patent No. 696,166, Werner, Circuit for Signal Devices (Werner); No. 1,631,021,

J.J. Dowling, Thermionic Indicating Means Responsive to Light Variations (Dowling II); No. 1,561,837, J.J. Dowling, Thermionic Indicating Means Responsive to Light Variations (Dowling I). The last four were not cited to the Patent Office during the prosecution of Rowell '214, although Honeywell had informed Scully of the two Dowling patents in 1954.

Dodd and Hines, both of which were cited to the Patent Office, referred to a code-following circuit² as prior art. A code-following circuit described by a witness to have existed in the late 1940's is diagrammed in Appendix B. Relay CTR, analogous to relay (7) in the Honeywell device, alternately receives and does not receive signals from some external device. When charged, CTR switches the attached arm so as to complete a circuit between B+ and B-, a battery or other power source, a capacitor C, and a resistor R. When not charged, CTR causes a circuit to be formed between capacitor C, resistor R, and relay TR, with resistor R₁ wired parallel to relay TR. The effect of wiring resistor R₁ across relay TR is to delay the release of the relay during the period capacitor C is being charged and is not charging relay TR. The substitution of the resistor R₁ for the capacitor (13), the only distinguishing feature between the two circuits, was held to be irrelevant, as expert testimony indicated the desired effect of a delayed release load relay could be achieved in a variety of ways, any of which would have been obvious to one of ordinary skill in 1954. As a result, the district court held that Rowell '214's self-checking circuit was not by itself inventive.³

² Such circuits were used over the years to operate signals to indicate the presence of a train in a section of track, the word "code" denoting the sending of pulses of electricity rather than a steady current through the rails. The patent in issue details, as one of its possible uses, an application to railroad signalling.

³ The court said, "the simple fact is that the circuit used in plaintiff's patent is identical to circuits disclosed in the prior art." This conclusion seems plainly to be warranted on the record.

It formulated the sole remaining question as "whether it was obvious to use such a circuit in a flame-out monitoring device in a manner that achieved precise simulation of the predetermined event that the monitor is to detect."

The other patents considered by the district court, while employing self-checking circuits of varying degrees of efficacy, were relevant mainly because of the monitoring and interruption means that generated the on-off cycle transmitted to the checking circuit. Werner and Ludwig both involved space intrusion detectors, such as burglar alarms, designed to set off an alarm if some object interfered with a beam of light being sent into a photoelectric cell. Werner reflected the beam with a mirror from the light source to the detector; the portion of the beam between the mirror and the detector was projected across the protected space. The mirror was regularly jerked out of position, creating a steady pulse of light that went into the detector. Ludwig achieved the same effect through a circuit that switched off the light source upon receipt of the beam at the detector. Both systems embodied a feedback principle. The two Dowling patents were designed to detect variations in the intensity of light, such as occlusion caused by fog. A pierced disk which rotated in front of the beam of light was used in Dowling I. Dowling II substituted a vibrating prong, something like a tuning fork, which oscillated in the path of the light beam. The stimuli to the prong were controlled by the signals generated by the pulses of light, thereby embodying yet another form of feedback.

At trial Scully emphasized that the Rowell device, in exercising the monitoring system, simulated precisely the event to be detected by the monitor, namely disappearance of the flame. All other self-checking systems, it was maintained, created some other kind of interference with the operation of the detecting circuit that, because of a lack

of exact correspondence with the looked for event, failed to achieve the same degree of reliability. In particular, Ludwig and Werner rather than blocking the beam of light, as would the intruder sought to be detected, turned off the light signal completely. Further, the Dowling systems, which were meant to detect variations in light intensity, employed instead rhythmic but total blockage of the beam. The district court held, however, that the distinction was without a difference, as Scully had failed to indicate how Rowell's "precise" simulation of the flame-out in any way enhanced reliability in comparison to the other systems. The court further held that the combination of a light interruption device, already considered prior art, with a self-checking circuit, also considered prior art, did not amount to a patentable invention.

Although Scully knew about the Dowling patents during prosecution of the Rowell patent, this prior art was not disclosed to the patent office. ECA contended that the Dowling II patent, by employing feedback in its monitoring circuit, completely anticipated Rowell '214 and would have resulted in the latter patent's invalidation if seasonably presented to the Patent Office. Rowell's feedback feature was not, however, essential to the invention and in other respects the Dodd and Hines patents, which were cited, seem more closely to have anticipated the Rowell system. Both Dowling patents were in the public domain for more than a decade before Rowell applied for his patent. Rowell in 1954 wrote two analyses for Scully of the Dowling patents, each of which contended that his invention contained substantial safety features not found in the earlier devices. The second of these memoranda, of which ECA made use during trial, accepted for the sake of argument that the self-checking circuit in Dowling II was as safe as that in Rowell '214 but went on to indicate other features

of the earlier system that made it less safe than his own invention. Honeywell was sufficiently convinced by the memoranda to accept the Scully license.

It does not appear that anyone thought much of the Dowling patents until Rowell became embroiled in an unsavory dispute with Scully in 1970. Impugning his own invention and prior statements, Rowell surprisingly asserted that one of the Dowling patents was entirely anticipatory of his own invention; and undertook on this basis to sabotage Scully's suit against ECA. The district court nonetheless found, supportably we think, that, "given that plaintiff did in fact cite to the Patent Office numerous patents far more relevant than Dowling, to either a broad or narrow reading [of the Rowell patent], I cannot imagine that citing Dowling would have affected the Patent Office proceedings."

While "the ultimate question of patent validity is one of law", *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1965), this court has emphasized the highly factual context of a determination of § 103 obviousness, and the strong deference due a district court's reasoned judgment on the issue:

"More often . . . obviousness as an ultimate question cannot meaningfully be separated from those factual determinations which are peculiarly within the trial court's province, such as the credibility of the experts. The district court's supported findings on obviousness will therefore normally stand unless manifesting a misconception of the correct legal standard."

Forbro Design Corp. v. Raytheon Co., 532 F.2d 758, 763 (1st Cir. 1976). Scully contends, however, that the district court, although reciting the proper legal standard for determining obviousness, in fact applied the wrong criteria, namely obviousness to the court itself. Scully goes so far, indeed, as to deny that the record itself contains *any* evi-

dence that would support the finding of obviousness, arguing that the court simply ignored the "years of expertise in the nuances of these circuits" of the Patent Office, which also had Hines and Dodd before it. Further, the court is said to have overlooked the demonstration "that the best the skilled engineers in this art had been able to evolve, over the past twenty years, despite their attempts to provide against unsafe failures, still ran the risk of . . . failures, that simply cannot fail unsafe with the Rowell technique." The entire technical community is said to have recognized the novelty and importance of the Rowell system. The district court is said to have ruled by "fiat", piecing together a multitude of prior inventions and patents by hindsight, in violation both of the admonitions of jurists and the Constitution itself.⁴

If the district court were guilty of such misdirected thinking we would agree that error had indeed occurred. Scully, however, ignores the substantial evidence supporting the district court's finding that the relevant techniques were all known to the art in 1957 when the patent was obtained, and the lack of persuasive evidence that Rowell's assemblage of these bits and pieces reflected, in the instant application at least, a novel insight.⁵ According to Pascoe,

⁴ Appellant's counsel writes in his brief that in "thirty years of practice, and in some courts mighty hostile to patents . . . [he] has never seen such a travesty of technology, let alone justice." He goes on to speak sarcastically of the district court's "great insight", and, after other comments in the same vein, to urge reversal in order to uphold "the intellectual integrity of the judicial system." While later in this opinion we shall deal with this mode of argumentation, which we regard as intolerable, we mention it here merely to make it clear that we did not miss the point.

⁵ The district court correctly approached the claimed invention as a combination of known elements. After citing *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 61 (1969) to the effect that a combination patent must achieve "an effect greater than the sum of the several effects taken separately", it cautioned against reading this language too literally, saying,

a Westinghouse engineer, the same ingenious self-checking circuit forming the backbone of the patented system had been employed in railroad signalling devices in the 1940's; it is referred to in the Dodd patent and in the Hines patent. Scully does not seriously contest this,⁶ but argues that since no one "had thought of the application of this kind of technique, suitably modified, for burner control safety monitoring", there was invention.

In response, the district court inquired whether using the precise event to be detected, in this case the light from the burner flame, with a light interrupter and detector in combination with the non-inventive self-checking circuit, was inventive. It concluded not. It would not be inventive to adopt a self-checking circuit to monitor the presence or absence of light, nor "to effect the pulsing needed to utilize the self-checking circuit by use of a shield or similar light occlusion device to cause light periodically to strike the detector." The latter technology was sufficiently revealed in both Dowling patents and in Werner and Ludwig. Pascoe, moreover, testified to a contemporary use of a light source, interrupter, and a detector with a self-checking circuit to signal the presence of a train.

The court then turned to Scully's emphasis upon the patent's teaching "that the precise predetermined event which the device is to monitor should be repetitively simulated to produce the checking pulse." Scully presented this as, in effect, the synergism which could transform a combi-

"by hindsight, a combination patent will always achieve, strictly, no more than the sum of the parts". The court's formulation was that, "invention may lie in perceiving the possibility and making the selection so as to achieve something not a priori, mechanically, obvious". The district court was clearly well aware that combinations may be inventive, and that hindsight can be dangerous.

⁶ To the extent a claimed invention is directly anticipated in the prior art, it is of course not inventive. See *Shanklin Corp. v. Springfield Photo Mount Co.*, 521 F.2d 609, 617 (1st Cir. 1975), *cert. denied*, 424 U.S. 914 (1976).

nation of familiar elements into an invention. The court was unimpressed — warrantably, we think. It could find little evidence that the concept of precise simulation was itself the key to some advance over the prior art in averting unsafe failures. To the extent blockage of light from the flame to the detector was a species of "precise simulation", it found it to be just another obvious way of employing light interrupters — merely "the recognition of an attribute of an existing device". Hence "at least as adapted to a nonfeedback burner flame monitor, the patent is invalid."

Given the level of technology which the court was entitled to find existed, we believe it was warranted in concluding that utilization of the burner flame itself, the interrupter, the detector, and the self-checking circuit was in 1957 within the competence of engineers ordinarily skilled in the art. To be sure, this presupposes knowledge of self-checking circuits in the railway field and of systems in other industries with common problems, such as burglar alarms, fog detectors, and so forth. Rowell's patent, however, encompasses such a range of applications: indeed it describes a railway application but does not specifically describe a burner flame use at all. We think the "art to which said subject matter pertains", as defined in § 103 would embrace such devices.

On appeal, Scully does little to meet the district court on these grounds. Rather it belittles the district judge as one who has, never in his life, upheld a patent,⁷ and urges

⁷ Decisions in which the judge in question has either determined an invention to be non-obvious or, writing for the circuit court, has upheld such a determination include *Spound v. Mohasco Indus., Inc.*, 534 F.2d 404 (1st Cir.), cert. denied, 429 U.S. 886 (1976); *Borg-Warner Corp. v. Paragon Gear Works, Inc.*, 355 F.2d 400 (1st Cir. 1965), cert. denied, 384 U.S. 935 (1966); *United Shoe Machine Corp. v. Industrial Shoe Machinery Corp.*, 335 F.2d 577 (1st Cir. 1964), cert. denied, 379 U.S. 990 (1965), *rev'd* 223 F. Supp. 826 (D. Mass. 1963); *Wilson Research Corp. v. Piolite*

courts to stay out of matters that they don't understand. Its most credible argument, but one we also find deficient, is that the district court paid no attention to the ready commercial acceptance of Honeywell's licensed device, and its evidence of enthusiastic trade comment.

We would agree that secondary factors — especially were they to show "long felt but unsolved needs, failure of others", *Graham v. John Deere Co., supra*, 383 U.S. at 17 — could be important evidence in a case such as this, but we do not agree that Scully's evidence measures up to the claims of its counsel. In Hand's famous compendium of "signposts" in *Reiner v. I. Leon Co.*, 285 F.2d 501, 504 (2d Cir. 1960), cert. denied, 366 U.S. 929 (1961), the questions, "how long did the need exist" and "how many tried to find the way", appear side by side with the question of success. That Scully and Honeywell were the first to adapt and market a self-checking system in the burner industry, and that the product was safer than previous devices, says little about the inventiveness of the system in a technological sense. Beyond indication that earlier burner monitors were less reliable, it was not brought out what sort of an effort had been mounted in the burner industry to develop a comparable system. The industry's failure earlier to develop a self-checking system could as well have been due to lack of interest or appreciation of such a system's potential or marketability, as to want of technical know-how. Indeed, there was evidence that ECA, a major producer, refused a license initially because of a belief (whether or not misguided is beside the point) that what it had sufficed.

Plastics Corp., 327 F.2d 139 (1st Cir. 1963); *Progressive Engineering, Inc. v. Machinecraft, Inc.*, 273 F.2d 593 (1st Cir. 1959); *St. Regis Paper Co. v. Winchester Carton Corp.*, 410 F. Supp. 1304 (D. Mass. 1976); *Norton Co. v. Carborundum Co.*, 397 F. Supp. 639 (D. Mass. 1975), *aff'd*, 530 F.2d 435 (1st Cir. 1976).

Scully introduced a variety of news clippings, lab reports, and related items dating from the period of invention, all of which remarked on the advance in flame monitoring safety achieved by the Rowell invention. The majority of these items, however, were either promotional literature put out by Scully or press reports cribbed directly therefrom. The lab reports established only a fact which is not in dispute: that the Rowell patent was the first to apply the self-checking circuit to burner flame monitoring. None of these reports were decisive or even especially germane to the inventiveness of this application. As the Supreme Court said recently, in discussing a patent held simply to arrange "old elements with each performing the same function it had been known to perform, although perhaps producing a more striking result than in previous combinations,"

"Though doubtless a matter of great convenience, producing a desired result in a cheaper and faster way, and enjoying commercial success, Dairy Establishment 'did not produce a "new or different function" . . . within the test of validity of combination patents'. *Anderson's-Black Rock v. Pavement Co.*, *supra* at 60. These desirable benefits 'without invention will not make patentability'. *Great A. & P. Tea Co. v. Supermarket Corp.*, 340 U.S., at 153. See *Dann v. Johnston*, *ante*, at 230 n.4."

Sakraida v. AG PRO, Inc., 425 U.S. 273, 282-83 (1976).

The foregoing authority, and the cases it cites, also dispose of Scully's argument that the district court was duty bound to treat the fact of issuance of the patent as itself conclusive of non-obviousness. While weight must be given to the presumption of validity, and this circuit is quite prepared to sustain patents which meet the statutory criteria, the time has long since gone, if it ever existed, when district courts and courts of appeal could refuse

to make an independent assessment of § 103 obviousness in light of all the evidence presented. To criticize a court for making an independent assessment is to criticize it for doing what the law presently requires. The process involves the ever-present risk of an overuse of hindsight, as well as the possibility of blunders by lay judges; but this court has no license, even if it wanted one, to adopt another approach. Finding nothing even marginally erroneous in the analysis employed by the district court, we sustain the finding of invalidity.

Fraud

Turning to the cross-appeal by ECA, it must be determined whether the district court violated the mandate of Federal Rule of Civil Procedure 15(b) to amend the pleadings to conform to issues tried with the express or implied consent of the parties. Having determined that the Dowling patents did not anticipate Rowell '214 and would not have affected the prosecution of the patent in light of closer prior art that was cited, the court refused to consider whether Scully nonetheless violated its duty of candor and good faith by not disclosing the two patents. The court noted that further evidence would be necessary to resolve the issue, and that the failure of the record to contain sufficient evidence to try the issue was due entirely to ECA's own misconduct. The court found that ECA had known of the two Dowling patents at least since 1972, although its counsel were not told of their existence until midway through the trial. In addition, ECA in its post-trial briefing on the issue had attempted to mislead the court as to the extent of an inventor's duty of disclosure at the time the Rowell patent was prosecuted. These factors all persuaded the court to deny the motion to amend.

Although Rule 15(b) by its terms requires amendment of the pleadings whenever an issue has been tried by express

or implied consent, courts have refused to grant such motions if amendment would prejudice one of the parties, such as by requiring the presentation of additional evidence. *See American Hot Rod Association, Inc. v. Carrier*, 500 F.2d 1269, 1277-78 (4th Cir. 1974); *United States v. An Article of Drug*, 20 F.2d 564 (3rd Cir.), *cert. denied*, 375 U.S. 953 (1963); 3 Moore's Federal Practice ¶15.13[2], at 997 & n. 34 (2d ed. 1974). Professor Moore explains this practice as an implied finding that the issue involved was not tried by the consent of the parties. *Id.* Whether the district court's ruling be interpreted either as finding the issue had not in fact been tried, or that Scully had not consented to trying the issue, the denial of ECA's motion to amend did not exceed the court's discretion. The Dowling patents were put in evidence primarily to attack the validity of the Rowell patent, not to prove bad faith on the part of Scully. As the district court noted, establishing fraud on the part of Scully would require evidence of state of mind, *see Norton Co. v. Carborundum Co.*, 530 F.2d 435, 441-42 (1st Cir. 1976), which neither side produced to sufficient degree. Requiring Scully to introduce new evidence of its intent and actions during the prosecution of Rowell '214, when the failure of the case to embrace this issue can be attributed entirely to ECA's neglect, would be sufficiently prejudicial to warrant the action taken by the district court.

Counsel's argument

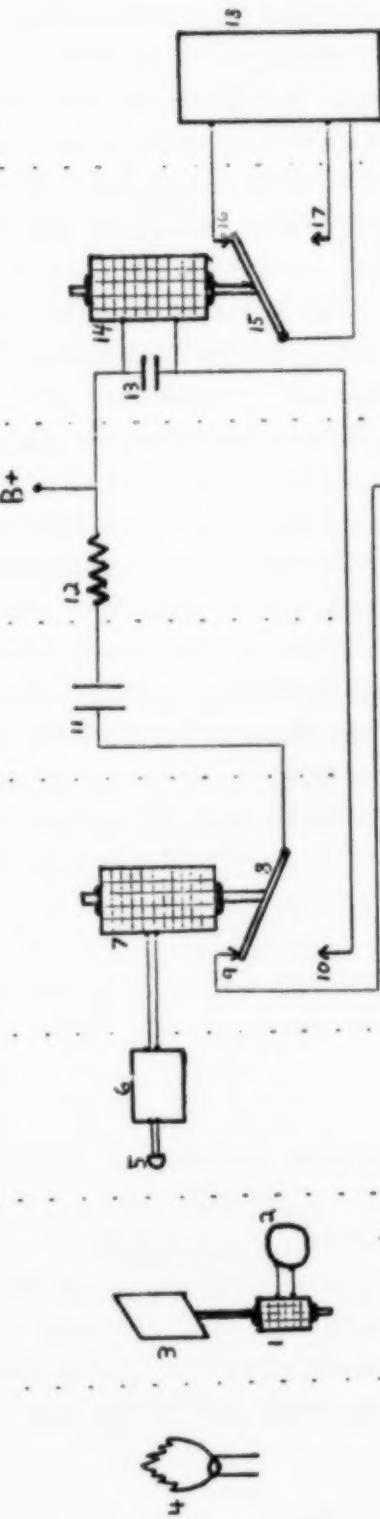
We must comment on the entirely unacceptable tenor of argument by Scully's counsel. The right of appeal includes the right vigorously to challenge the decision of a lower court and to describe in every proper way its alleged errors. But appellate counsel may not give vent to their frustrations by undignified or discourteous remarks directed against the person of the deciding judge. Never

suppressing any fact or proper argument, counsel have a professional responsibility to refer to the tribunals from which an appeal is taken, as well as those before which they appear, with reasonable respect and courtesy. Perhaps an attorney would have greater leeway if provoked by some act of judicial misconduct, but clearly there was no misconduct here — only a decision which counsel believes to be wrong. The court's decision manifested care and diligence. While it might be natural for a layman, embittered by a decision, to lash out at a judge, such conduct cannot and will not be tolerated from a member of the bar of this court. We only refrain from taking some action because of the curious history of this case which, beginning with defendant's egregious misconduct, seems to have spawned an unusual atmosphere that seems unlikely of repetition. We make it quite clear, however, that counsel's personal asides in Scully's brief raise serious questions in our mind. *See Mass. Sup. Jud. Ct. Rule 3:22*; DR 7-106 (c)(4); DR 7-106(c)(6). Should we receive anything approaching this from counsel in the future, we shall not hesitate to act.

Affirmed.

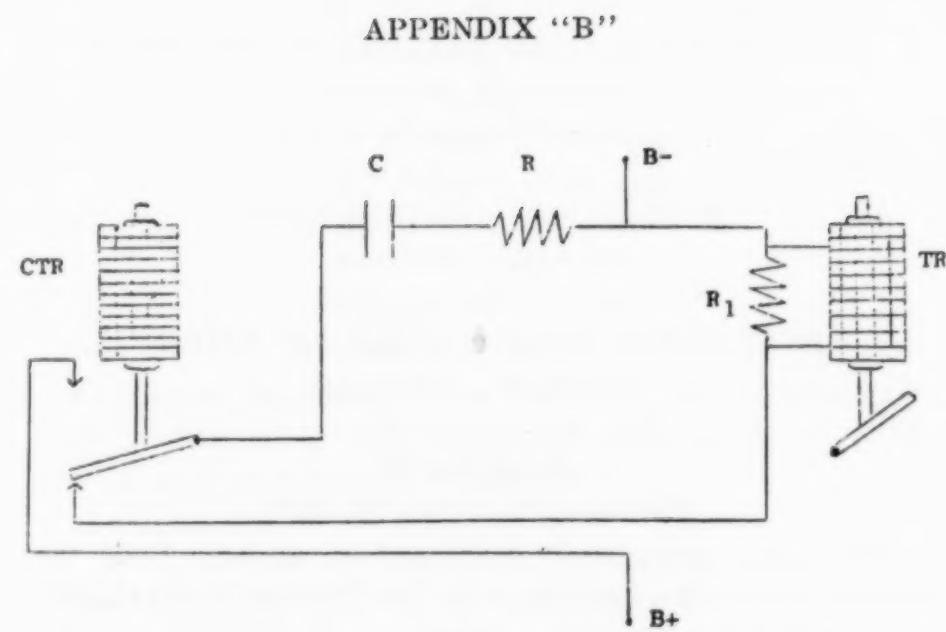
APPENDIX "A"

Burner (A)	Light (B) Interrupter	Detector (C)	Switching (D) Relay	Storage (E) Capacitor	Power (F) Supply	Load Relay, (G) Slow Release	Warning (H) Device
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A-18

A-19



APPENDIX "B"

**United States Court of Appeals
For the First Circuit**

No. 77-1133.

SCULLY SIGNAL COMPANY,
PLAINTIFF, APPELLANT,

v.

ELECTRONICS CORPORATION OF AMERICA,
DEFENDANT, APPELLEE.

No. 77-1144.

SCULLY SIGNAL COMPANY,
PLAINTIFF, APPELLEE,

v.

ELECTRONICS CORPORATION OF AMERICA,
DEFENDANT, APPELLANT.

JUDGMENT

ENTERED December 29, 1977

This cause came on to be heard on appeals from the United States District Court for the District of Massachusetts, and was argued by counsel.

Upon consideration whereof, It is now here ordered, adjudged and decreed as follows: The judgment of the District Court is affirmed. No costs on appeal.

By the Court:

/s/ DANA H. GALLUP
Clerk

**United States Court of Appeals
For the First Circuit**

No. 77-1133.

SCULLY SIGNAL COMPANY,
PLAINTIFF, APPELLANT,

v.

ELECTRONICS CORPORATION OF AMERICA,
DEFENDANT, APPELLEE.

Before COFFIN, *Chief Judge*,
LAY,* *Circuit Judge* and
CAMPBELL, *Circuit Judge*.

ORDER OF COURT

ENTERED January 18, 1978

Failing to raise any issues that have not already been fully considered by this court, the petition for reconsideration and/or rehearing is denied.

By the Court:
/s/ DANA H. GALLUP
Clerk.

*Of the Eighth Circuit, sitting by designation.

Supreme Court of the United States

No. A-787

ELECTRONICS CORPORATION OF AMERICA,
PETITIONER,
v.

SCULLY SIGNAL COMPANY.

ORDER EXTENDING TIME TO FILE PETITION
FOR WRIT OF CERTIORARI

UPON CONSIDERATION of the application of counsel for petitioner,

IT IS ORDERED that the time for filing a petition for writ of certiorari in the above-entitled cause be, and the same is hereby, extended to and including April 18, 1978.

/s/ WILLIAM J. BRENNAN, JR.
Associate Justice of the
Supreme Court of the
United States

Dated this 17th day of March, 1978.

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

Civil Action No. 68-881-F

SCULLY SIGNAL COMPANY,
PLAINTIFF,

v.
ELECTRONICS CORPORATION OF AMERICA,
DEFENDANT.

OPINION
February 7, 1977

ALDRICH, *Senior Circuit Judge.**
Prelude

This is an action for patent infringement. Plaintiff, Scully Signal Company, is the owner, by assignment from an employee, of U.S. Patent No. 2,798,214, W. G. Rowell, Checking Technique and System, applied for April 23, 1954, and issued July 2, 1957. Because the inventor, personally, figures prominently in the case, he will be referred to as Rowell, and the patent as the patent, or plaintiff's patent, or simply, '214. Defendant, Electronics Corporation of America, hereafter ECA, which manufactures and markets the accused device, Fireye UVP-4S Self-Checking Control System, denies both infringement and validity. Both parties have filed post-trial motions for special relief concerning two patents, J.J. Dowling, Thermionic Indicating Means Responsive to Light Variations, No. 1,561,837, Nov. 17, 1925 (Dowling I), and J.J. Dowling, Thermionic Indicating Means Responsive to Light Variations, No. 1,631,021, May

*Sitting by designation.

31, 1937 (Dowling II), which defendant asserted, for the first time during trial, against the patent. Plaintiff moves to strike the Dowling patents, and defendant moves to amend its pleading to allege that plaintiff was guilty of disabling fraud in not calling them to the attention of the Patent Office, and for damages. These motions must be disposed of before reaching the merits, but, regrettfully, in connection therewith, there must be considered at length a number of unusual occurrences relating to the trial.¹

My first contact with the case, it having been given me as a case of a deceased judge which had not been reached by his successor, occurred in November, 1975, when I conducted a general pretrial and assignment call. This was attended on behalf of defendant by Mr. Jenney, a patent attorney well and favorably known to the court. Mr. Featherston, an attorney also favorably known, but believed, it develops correctly, to have no patent experience, was also to appear for defendant, but was unable to be present. At that day's bench conference the trial was assigned to begin at 10:00 A.M., Tuesday, December 30, 1975. Although Mr. Featherston foresaw an engagement that might not terminate by then, the court stated that it would be unable to honor the engagements of two counsel, particularly inasmuch as Mr. Jenney was patent counsel and it was indicated that the defendant wished Mr. Featherston merely to be present at the trial and ultimately to put on one witness.

¹ The parties furnished extensive post-trial briefs, hereafter PB and DB, and responded to a subsequent letter making certain inquiries by filing reply briefs, hereafter PRB and DRB. I note here that the inquiries and suggestions in the court's letter of February 18, 1976 were in part answered. That letter is not to be considered as making any independent findings. Supplemental briefs, hereafter PSB and DSB, were filed in September. Other references will be cited as follows: volume and page transcripts, *e.g.*, [4:16]; columns and lines of patent, *e.g.*, [col. 4:16-20].

On December 29, the court denied a renewal of the pre-trial motion for a continuance because of Mr. Featherston's engagement, which this time was accompanied by an affidavit. This again recited that Mr. Featherston was "lead" counsel, and that defendant wished him to be "present." In spite of the denial of this motion, the only counsel to appeal for defendant the next morning was an associate of Mr. Featherston, who stated that he was there merely to report that Mr. Metcalf, defendant's president, had instructed Mr. Jenney "not to appear or go forward without the presence of the lead trial counsel, Mr. Featherston." [1:2]. My instinctive reaction was to default defendant forthwith, but, in fairness, I thought that I should make inquiry, and responded as follows.

"The Court: Let me ask you this: who is going to examine the witnesses for and on behalf of the Defendant?

Mr. Oberkoetter: When Mr. Featherston is available, Your Honor, he will do so.

The Court: In other words, patent counsel is not going to try this case?

Mr. Oberkoetter: I am informed by Mr. Featherston at approximately 9:20 this morning, Your Honor, that Mr. Featherston is the lead trial counsel and will be trying the case.

....

The Court: My experience with patent cases has been that patent attorneys, except in jury cases, are the ones who try the case. . . . You now tell me Mr. Featherston is going to be the one who examines the witnesses. On those conditions I will postpone the case; but I do not intend—as I said at [the pretrial]—to postpone the case so that Mr. Featherston may sit in.

Mr. Oberkoetter: I represent to the Court, Your Honor, that Mr. Featherston indicated to me that he will be trying the case [although there is the probability] of Mr. Jenney posing some questions on behalf of the Defendant Corporation.

The Court: If Mr. Featherston is the principal examiner of the witnesses, I am content; but *it is with that understanding only that I make this postponement* because I made this point clear some weeks ago." [1:2-4] (Emphasis suppl.)

The court waited until 3:15 P.M. for Mr. Featherston to complete his engagement. Plaintiff's case then took two days, during all of which time Mr. Jenney acted for defendant. Friday afternoon, January 2, Mr. Jenney proceeded with defendant's case, Mr. Featherston again taking no part. On Monday, January 5, Mr. Featherston was ill, but Mr. Jenney stated he was the one who was to continue with Friday's witness, and did so. He finished before the day's end, and asked for a continuance so that Mr. Featherston could present "at least one witness to testify on matters . . . not directly related to the strictly patent aspects of the case." The court acceded, but with the caution that the case must finish that week because of previous commitments. It did not so finish, due to circumstances later to be related. I deal first, however, with Mr. Featherston's failure to live up to the representations made on December 30 to obtain the postponement.

Mr. Featherston not having asked a single question of a witness, on January 8 I commented adversely on this fact, pointing out to all counsel that I had postponed starting the case on the express understanding that Mr. Featherston was the one who would principally examine the witnesses. [5:25-26]² I am, literally, astounded by the statement in DRB, filed, of course, long after the parties had

the full transcript,³ as to what defendant now says the court was told on December 30.

"[Defendant's] instructions to Mr. Featherston were that he was chief counsel and he was to be present in court and *control* defendant's case. This was what Mr. Featherston's associate told the Court December 30 and it was the truth." [DRB 45-46] (Emphasis suppl.)

Not only was this not what the court was told, but, upon Mr. Featherston's appearance after I had waited for him, I had said,

"The Court: I'm told . . . by your associate . . . that you were the one who was going to try the case . . . and I said under those circumstances, I will wait until Mr. Featherston comes, but with the understanding that he will be the principal trial lawyer

Mr. Featherston: That is, I think, substantially correct.

The Court: It better had be." [1:15] What the court said had better happen, never did happen. Regretfully, I find it never was intended to happen. It may be—I have no present knowledge—that Mr. Oberkoetter misunderstood Mr. Featherston and overspoke. This does not alter the fact that his statement is on the record, and was called to counsel's attention. Instead of noting it, and oblivious to the record, DRB now adds the further preposterous statement, "Nor can the delay caused by Mr. Featherston being tied up in Judge Julian's court be laid at defendant's door." [DRB 45] The drum to which defendant chooses to march drowns out the sound of everything except its own voice, and even drowns out some of that.

² The negative in the phrase appearing at line 1 on 5:26, "wouldn't principally examine" is an error of the reporter's, as the rest of the page, through line 22, as well as the transcript elsewhere, makes clear.

³ Defendant in fact had daily transcript.

Before leaving this subject I remark that if, in fact, Mr. Oberkoetter misunderstood Mr. Featherston, and all he was told was to repeat what had been in Mr. Featherston's affidavit, we have the singular circumstance that on Monday, December 29 I had denied defendant's motion, leaving standing the order to start the next morning, and defendant's response was to instruct counsel to pay no attention to it.⁴

The foregoing is only part of defendant's procedure. Instead of being prepared to complete the trial that week as instructed, after the continuance granted at Mr. Jenney's request because of Mr. Featherston's illness, defendant proceeded to discharge Mr. Jenney. When court reconvened on Thursday, January 8, defendant requested a further, two weeks' continuance for the purpose of educating new counsel. [5:31] The asserted cause for this was as extraordinary as the action: counsel had been conducting the trial "180 degrees" from the way Metcalf, defendant's president and chief executive officer, understood it should be tried. [5:18] This circumstance could not have come, however, as a surprise to Metcalf. Three weeks before trial he had learned from Mr. Jenney how Mr. Jenney proposed to present the case. Accordingly, he informed the court, "I asked that Mr. Jenney under no circumstances appear in court for us . . ." [5:19] Thereafter he learned that Mr. Jenney was, nevertheless, present and trying the case.⁵ Metcalf testified,

"Mr. Metcalf: He just did it. I couldn't believe it.

⁴ For this there is not only the obvious fact of Mr. Jenney's failure to appear, and Mr. Oberkoetter's statement, but Mr. Jenney's subsequent confirmation. [5:25] See, also, Mr. Featherston's apparent concurrence, ante. [1:15]

⁵ "Mr. Jenney['s] . . . appearance in Court each time was counter to my direct orders." Letter to the court from Mr. Metcalf, Jan. 6, 1976.

The Court: You are the man in charge. It was up to you to do something.

Mr. Metcalf: Sir, I was a helpless prisoner.

The Court: Who was imprisoning you?

Mr. Metcalf: All I could do, Your Honor, was to ask Mr. Jenney not to appear and to ask Mr. Featherston to appear.

The Court: You couldn't ask Mr. Featherston to employ Mr. Bronstein or whoever else?

Mr. Metcalf: I thought it was pretty late in the day." [5:21, 22, 23]

Passing the fact that I am told in the one breath that Mr. Jenney was instructed not to appear, and in the other that it was too late to change, the fact is that, to Metcalf's knowledge (emissaries were constantly in the courtroom) Mr. Jenney did try the case on a day to day basis. During the trial he evoked comments from the court which Metcalf felt to be critical.⁶ It then ceased to be "pretty late in the day," and Mr. Jenney was in fact discharged.

My comments were not that I disagreed with the basic defense, but that I felt Mr. Jenney was overtrying his case. Experienced counsel know what weight to attach to such comments. Metcalf would not be the first inexperienced layman to give them undue importance. Nonetheless, I cannot excuse his behavior. Either he should have had confidence in his well qualified counsel, or, if his primary confidence was in himself, he should have truly discharged counsel when the differences between them became apparent before trial. In attempted justification, he informed the court,

"I feel that the Court's time was wasted . . . in listening to the testimony. . . . Mr. Jenney has written

⁶ For this I have not only the inference from Metcalf's conduct, but DB's discussion of the subject.

me a letter . . . that as far as he is concerned the case has been concluded by him. Your Honor, with all respect, as far as I am concerned, the case has not been started." [5:54]

If this is to be taken as contradicting my inference that Mr. Jenney's discharge was prompted by my comments during trial—and I may be mistaken in drawing that inference—the alternative is that Mr. Jenney was discharged simply for doing what he said he was going to do in the first place. Nevertheless, this extreme story persuaded me to allow a further short continuance, which counsel subsequently agreed was sufficient.

New patent counsel then offered the two patents, Dowling I and II, which are the subject of plaintiff's motion to strike. Neither of these had been in the 30-day notice, 35 U.S.C. § 282, although defendant had concededly been aware of the first for many years. I admitted them both, on plaintiff's concession that it knew them well,⁷ but I did not know then the full circumstances of defendant's learning of the second. Defendant is wrong in saying that plaintiff's motion to strike, filed at the close of the evidence, is untimely; I must consider it.⁸

Defendant contends that it learned of Dowling II only on Saturday, January 3 at a conference with Rowell. This presents a broad issue that I must consider. Plaintiff had originally employed Rowell, the patent's inventor, to assist in trying its case. Rowell had aided in preparing a "breadboard," or mock-up of the patent, to introduce as an exhibit, and analytical charts to use in testifying. There had then been a falling out, after which Rowell, in February, 1972, approached defendant with a personal offer. According

⁷ It is not fair to say that plaintiff did not object.

⁸ I merely footnote defendant's attempted suggestion [DRB 19] that Mr. Jenney's not citing Dowling I violated instructions. This is totally unwarranted. Mr. Jenney is the victim of defendant's behavior, not the cause of it.

to Metcalf, Rowell said, "I have made a long study of not only the Rowell patent, but of prior art. If you care to buy the results of my study to throw light on the facts of this case, I am prepared to sell it to you." Metcalf agreed. In accepting this offer, or in due course thereafter, he knew that the study, or at least a substantial part of it, had been made at plaintiff's expense, and the circumstances thereof. He also admittedly knew, from his general experience, of Rowell's inventor's oath, and the covenant of cooperation that is standard in an inventor's patent assignment.

Significant other facts relating to Rowell I assume that Metcalf did not know until they came out during trial. After having accepted a lump sum settlement for his share in the future royalties, and leaving plaintiff's employ, Rowell wrote plaintiff that he had changed his mind and had concluded that his patent was invalidated by the Dowling patent with which he had become fully conversant at the time he applied for a patent, well before he signed the inventor's oath. In the letter to plaintiff announcing this change of mind Rowell stated that, nonetheless, if plaintiff would agree to pay him 5% of the gross recovery (by a later letter raised to 8%), plaintiff could have his "services." Plaintiff produced this letter on cross-examination. Because it stated that his patent would be "worthless" if Dowling "should become known" to defendant, I inquired of Rowell what "services" he proposed. His answer was that he would absent himself, "possibly take a trip to Bermuda," during the trial. [7:134] It was after learning that his offer was one that plaintiff felt it could refuse that Rowell approached defendant.⁹

⁹ Rowell's introductory letter to defendant indicated that he had knowledge of a patent "that will invalidate" '214, and requested \$2500 therefor, stating, in justification, that it had "cost me a lot of time and expense to dig this up." (See also, [5:71], "the many, many hours it took to uncover the Dowling patent."). To be blunt, these were total lies. Rowell had not dug up either

Although defendant is now well aware of this background, it continues to laud Rowell throughout its briefs, to the point of accusing plaintiff, in not calling Rowell to give his opinion, of being guilty of "suppression of relevant and material evidence of invalidity by the patentee . . . fatal to its case," [DRB 21] "[evidence that] good faith and public interest requires . . . be brought to the attention of the Court . . ." [DRB 108] It seems unbelievable that defendant should make such a claim. However, this is the same defendant who, as late as this reply brief which charged plaintiff with suppression, described Rowell's letter as an "offer to participate in the lawsuit as witness for plaintiff," [DRB 5] a benign undertaking, when, instead, on Rowell's own admission and the plain intendment of his letter, it was an offer, for a price, to conceal, and not testify. Doubtless defendant was unhappy about Rowell's cross-examination, but this cannot justify emulating the inhabitants of Nineveh, who could not discern their right hand from their left. *Jonah* 4:11. History does not relate whether the Ninevites were aware of their disability, but surely defendant's counsel should be.

I find that Rowell's conduct was a breach of his covenant, as assignor of the patent, to "do everything possible to aid the company . . . to . . . enforce proper patent protection." I further find that he had no excuse by way of a good faith belief that plaintiff was acting improperly in seeking to enforce the patent. He knew no more then than he did when he stated the contrary in his inventor's oath.¹⁰ How-

Dowling patent. Minneapolis Honeywell Co. had furnished them during the license negotiations, [7:98] and Rowell, as an employee of plaintiff, wrote extensive memoranda showing their irrelevancy, ultimately persuading Honeywell to take the license. Obviously, Rowell had incurred no "digging" expense, and his only uncompensated time was that required to reverse his polarity, a condition I find controlled entirely by the source of the currency.

¹⁰ I suppose, theoretically, that this oath could have been the lie. However, at that time Rowell had the significant support of Honeywell, who, in spite of familiarity with Dowling I and II, accepted an expensive license.

ever, I rule that ever since the majority opinion in *Scott Paper Co. v. Marcalus Mfg. Co.*, 1945, 326 U.S. 249, or at least since *Lear, Inc. v. Adkins*, 1969, 395 U.S. 653, the right to attack the validity of a patent cannot be limited either by contract or by equitable considerations. *But cf. Wallace Clark & Co. v. Acheson Industries, Inc.*, 2 Cir., 1976, 532 F.2d 846, cert. denied, 425 U.S. 976 (consent judgment of validity is res judicata). In spite of the covenants in his assignment, and of his receipt of advance royalties, Rowell was legally free to attack the patent. Correspondingly, plaintiff has no complaint against defendant because it paid him for information, and I must deny plaintiff's motion to strike the Dowling patents.

This brings me to the second preliminary matter, defendant's post-trial motion to amend its pleading to assert that plaintiff, by not informing the Patent Office of the Dowling patents while the application was being processed, was guilty of fraud. I find, as a result of studying the file wrapper and the evidence, that plaintiff was guilty of no legal fraud. Indeed, defendant, in one of its briefs, apparently disclaims such. [DRB 91] Whatever may be the value of the Dowling patents, I do not find either anticipatory.¹¹ 35 U.S.C. § 102. I deny the motion, also, with respect to equitable fraud, but this is a more complex matter, for which I have a number of reasons.

¹¹ As will be seen, I do not read plaintiff's patent as broadly as some of its language might seem to warrant. Since the Dowling patents clearly do not anticipate '214 as narrowed, I do not consider the question of possible legal fraud in not citing them in relation to the broader reading. *See Norton Co. v. Carborundum Co.*, 1st Cir., 1976, 530 F.2d 435, 441. Even as to the broad reading, the concept of precise simulation of the event, although I ultimately reject it as not inventive, *see post*, might suffice to distinguish the Dowling patents and '214 for purposes of legal fraud. In any event, given that plaintiff did in fact [discuss with] the Patent Office numerous patents far more relevant than Dowling, to either a broad or narrow reading, I cannot imagine that citing Dowling would have affected the Patent Office proceedings.

The first is laches. I find, from certain testimony, and the inference apparent from Rowell's two February, 1972 letters to defendant, *see, e.g.*, [7:144-46], that he furnished defendant at that time with both Dowling patents. Where Rowell was being paid \$2500 simply to produce prior art, I do not accept the "recollection" of defendant's witnesses that his second letter, purporting to enclose a second, this time a feedback, patent, merely contained an unidentifiable single sheet. I do find that Messrs. Jenney and Featherston were given only Dowling I; apparently defendant misplaced the second patent. But even if losing the patent is to be thought non-negligent, defendant's failure to have someone interview its important witness, Rowell, until the middle of trial, cannot be so regarded. I was told in November that Rowell would testify. The consequences of not preparing him must fall on defendant, not on plaintiff.

Secondly, equitable fraud involves a state of mind, *see, e.g.*, *Norton Co. v. Carborundum Co.*, 1 Cir., 1976, 530 F.2d 435; *Shanklin Corp. v. Springfield Photo Mount Co.*, D. Mass., 1975, 387 F.Supp. 345, 350, *aff'd*, 521 F.2d 609, *cert. denied*, 424 U.S. 914, as to which defendant bears a heavy burden, *United States v. American Bell Tel. Co.*, 1897, 167 U.S. 224, 251. In spite of defendant's contention otherwise, the case has not been fully tried on this issue. There are questions that I, myself, would have liked to ask, had that issue been pleaded before trial instead of afterwards.

Finally, I consider defendant's own affirmative conduct. When defendant was speaking of claiming fraud on the Patent Office I said I thought that in the 1950's the express duty of disclosure to section 102, anticipation, and the extent of a duty to volunteer merely possibly relevant prior art was less defined than at present. In its post-trial memorandum in support of its motion to amend, defendant asserts that this is a "mistaken view of the law," and cites two cases which, it says, "resoundingly rejected" the con-

tention that a "broadened duty" of disclosure was reached "only during the mid-1960's." I regret to note that these cases are totally miscited. Compare defendant's "contrary" case of *Union Carbide Corp. v. Filtrol Corp.*, C.D. Cal., 1971, 170 U.S.P.Q. 482, 515, 521 (see particularly the discussion of the testimony of a former Commissioner of Patents), with its case of *W. F. Altenpohl, Inc. v. Gainesville Mach. Co.*, N.D.Ga., 1975, 185 U.S.P.Q. 497, 498. I remain of opinion that at that time, for prior art short of actual anticipation, there was a broad view taken of good faith, *see United States v. Standard Elec. Time Co.*, D. Mass., 1957, 155 F.Supp. 949, 952, *appeal dismissed*, 254 F.2d 598; *Admiral Corp. v. Zenith Radio Corp.*, 10 Cir., 1961, 296 F.2d 708, 716-17, which would require me, if defendant's amendment were allowed, to reopen the evidence. Nothing about defendant's conduct, or showing, persuades me to do this. By deliberate disregard of its obligations to the court by its December 30th conduct, and by its discharge of patent counsel in the middle of the trial and incommending the court for reasons that existed, to defendant's knowledge, well before trial, defendant has exhausted my discretion. Cf. *Louis C. Forteza e Hijos, Inc. v. Mills*, 1 Cir., 1976, 534 F.2d 415. Consequently, even if plaintiff were guilty of equitable fraud, the issue is not open, and I assume the contrary.

The Operation of the Patent.

For many years there have been manufactured devices that monitor the flame of oil- and gas-fired burners, an important product because of the dangers attendant upon accidental extinction, notably, if the supplying of fuel continues and the burner re-ignites. A monitoring device, on failure of the burner, activates a warning signal, or a means to shut off the fuel, etc., hereafter, simply, signals. However, it is, of course, possible for the monitor itself to fail. Hence the optimum monitoring device is one that checks

itself. Though a self-checker gives the same warning if the device fails as it does for the occurrence of the event it is monitoring, obviously it is better to have too many signals than to have none. The total field for such, so-called fail-safe, devices extends beyond burners, and encompasses such matters as monitors for the water level in a tank, the presence of a railroad train in a block of track, and the presence of an intruder in a designated area. In patent language the particular subject to be monitored is called the "predetermined event", hereafter event.

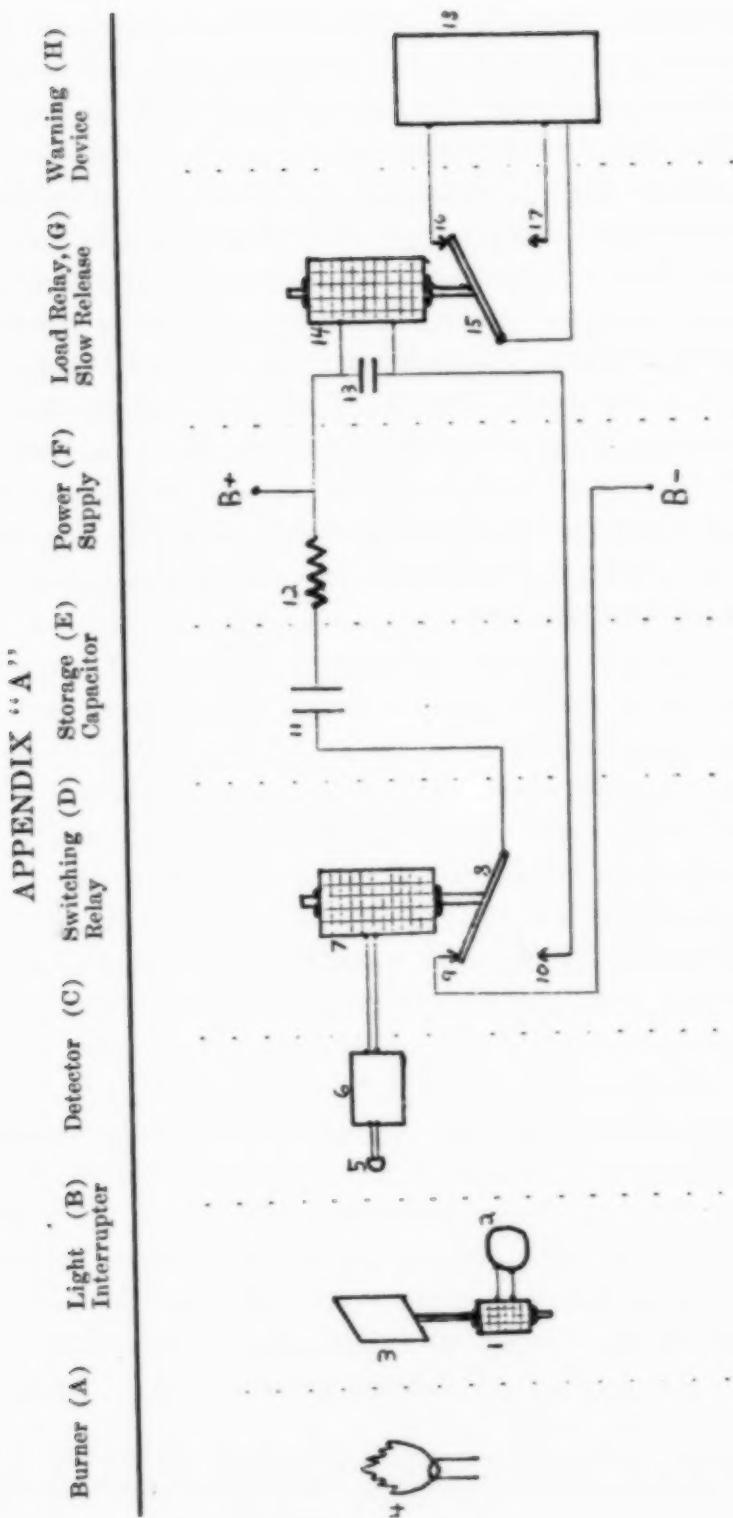
A basic concept of the plaintiff's patent is that the event itself is artificially simulated, so that there is an actual, exact, stimulus cast upon the detector, and hence the self-monitoring will include the detector's functioning. Thus, when used to note the predetermined unsafe level of liquid in a tank, the float is physically depressed to correspond with that level. If the device is used to denote the presence of a train in the surveyed section of the track, an electrical bridge is made between the rails corresponding to the short that would be created by the train. And where, to come to the case at bar, the device is intended to note the cessation of a flame, an artificial barrier, or shield, activated by a solenoid,¹² is interposed between the flame and the photo-electric cell, hereinafter sensor, that detects the flame's presence and cessation. This is done frequently, but briefly, viz., the supervised flame is, vis-a-vis the sensor, occulted, or, as described in this case, modulated, producing a corresponding response, to "exercise" the system.

Once the artificially produced event has occurred and caused a response from the sensor, although it is important that the fact it has taken place be checked, as to which, *see post*, it is of course, important that it should not evoke the signal. This is accomplished by having the example,

¹² A solenoid is an electric magnet which, when charged, will cause something, such as a soft iron load that it surrounds, to move.

providing that there will be no signal unless there is an event which persists for a period longer than one produced by artificial simulation. In plaintiff's device the signal is prevented from occurring as long as a final delayed action relay remains sufficiently charged. This relay is continually being energized during the intervals that the sensor detects the flame. When the sensor is not registering the flame, this particular charging ceases. Left alone, the relay would de-energize and "decay", and, when fully decayed, "drop out" and release the signal. The decaying, however, of this load relay is slow, and if the event was artificially produced, and hence deliberately short-lived, the resumption of energizing resulting from reactivating the sensor rebuilds the charge before the relay has sufficiently de-energized to drop out.

The following diagram,



represents plaintiff's patent, in a burner monitor embodiment.¹³

A solenoid (1), operated by a timer (2), periodically causes a shield (3) to interrupt the light emitted from the burner flame (4) to a photocell (5). An optional amplifier (6)¹⁴ amplifies the current produced when the light strikes the photocell to a level sufficient to operate a switching relay (D). When current is flowing through the relay coil (7), the relay arm (8) is pulled up into contact with contact (9). In this position, a power supply B+ B-, is connected through a resistor (12) to a capacitor (11), causing the capacitor to "charge", or store up electrical energy. When the shield (3) blocks off the light to the photocell(5), current does not flow to relay coil (7) and arm (8) drops, making contact with contact (10). In this position, the electrical energy previously stored in capacitor (11) flows to the coil (14) of the load relay (G) with its associated capacitor (13). Relay arm (15) is drawn into contact with contact (16). The timer then causes the shield to drop down again, light falls on the photocell, and the cycle begins again. In this position, when capacitor (11) is charging, the load relay (G) is no longer receiving current from the

¹³ The patent does not show a burner monitor application, but it does state that other uses may be made in addition to those illustrated. Such an application would be obvious to anyone minimally skilled in the art, as, indeed, is demonstrated by the fact that the diagram above was adapted by the court from figure 4 of the patent, one of its less complicated embodiments. Plaintiff, in spite of having an able and informed expert, Wisnia, gave me virtually no assistance in understanding the patent's circuit, but essentially limited his direct examination to a kindergarten demonstration of a breadboard assembly to show the patent in terms of result. Accordingly, I am indebted to Mr. Jenny's diagram, graphic as it was [Def. Exh. B], and his cross-examination of Wisnia [3:39-56], for aid in working out the circuit, which otherwise I would have to have done by myself.

¹⁴ Professor Frazier, on pressing by the court, conceded that the amplifier was incidental to the invention, evoking one of the comments which Metcalf may have felt reflected on Mr. Jenney [3:109]

storage capacitor (11). However, by having a capacitor (13) connected across the relay coil (14), the load relay (G) is made a "slow release" relay; that is, even after the current is cut off to coil (14) and capacitor (13), the relay arm (15) does not immediately drop down, but is held up against contact (16) for a brief period until the relay "decays" and the arm drops. The values of the components, and the timer, are adjusted such that before the load relay (G) decays, switching relay arm (8) will have switched position and the charge from capacitor (11) will again flow to the load relay (G). Figure (18) represents the warning devices, *e.g.*, bells, lights, and/or a system to cut off fuel to the burner. The warning signal is given only if arm (15) drops down to contact (17); so long as arm (15) and contact (16) are touching no signal is given.

In sum, the load relay receives pulses of electricity from the storage capacitor as the light interrupter causes the switching relay to switch back and forth, and the load relay's delay feature keeps it from dropping out so long as the pulses continue to be received. If the flame goes out, arm (8) will remain permanently in contact with contact (9), the load relay will decay, and the signal will be given. Similarly, if any of the components malfunction, *e.g.*, if there is a short circuit that delivers current to the switching relay even when no light is striking the photocell, or if any part should fail, and current is never delivered, relay arm (8) will remain in one of its positions and the signal will be given. If anything should happen so that the relay arm (8) is no longer switching back and forth, or, more precisely, if pulses are not delivered at the proper rate to the load relay, the signal will be given.

With this explanation of the patent,¹⁵ I turn to the questions of infringement and validity.

¹⁵ I have, of course, not limited myself to the language of the claims in describing the invention disclosed. It is a "settled principle that claims and specifications are to be read together." *Kop-*

Infringement; in general.

Defendant's device uses a circuit patented by defendant's chief engineer, a witness in this case, E.C. Thomson, Fail-Safe Control Apparatus, No. 3,288,195, Nov. 29, 1966. There is a light interrupter, controlled by an external timer, and a photocell and amplifier, the pulses of which cause a switching device to switch back and forth between two positions. As it does so, energy is alternately supplied to a capacitance storage system and transferred therefrom to a load relay. Thus, defendant's device simulates precisely the predetermined event to the same extent as plaintiff's, alternately energizes and de-energizes the system at the exact same rate as the shutter, [6:44] and, in general, follows the language of plaintiff's claims as spelled out in the specifications. I accept the testimony of plaintiff's expert that defendant's device falls within the scope of

pers Co. v. Foster Grant Co., 1st Cir., 1968, 396 F.2d 370, 371 citing *United States v. Adams*, 1966, 383 U.S. 39, 48-49. As the court said in *Laitram Corp. v. Deepsouth Packing Co.*, 5th Cir., 1971, 443 F.2d 928, 933;

"A claim may be and frequently is given its true meaning by reference to the accompanying specifications and drawings which, while they cannot enlarge it, may give the claim such limitation and definition as is necessary to make its abstract words descriptive of a specific device or process."

Accord, Olympic Fastening Systems, Inc. v. Textron, Inc., 6th Cir., 1974, 504 F.2d 609, cert. denied, 420 U.S. 1004; *Ziegler v. Phillips Petroleum Co.*, 5th Cir., 1973, 483 F.2d 858, 869, cert. denied, 414 U.S. 1079; *Calico Scallop Corp. v. Willis Bros., Inc.*, 4th Cir., 1972, 458 F.2d 390.

In effect, by referring to the specifications, I consider the invention disclosed to be that described in claim 20. Every diagram and all of the descriptions in the patent are of such devices. If I read the patent to include the full generality of claim 14, then, unless the matter of precise simulation of the event, *see post*, were found relevant, '214 would be invalid over various prior patents such as Werner, Ludwig, and the Dowling patents, as well as the closer art which I find to invalidate even a narrowed reading of the patent, *see post*. Defendant's defense to infringement based on the absence of feedback in its device, *see post*, however, turns on the incorporated wording of the broader claim 14, and therefore the limitation of the patent just indicated will not be relevant to that discussion.

plaintiff's patent. [2:90-95]. Indeed, except for their reliance, particularly the later ones, on the absence of feedback, *see post*, it is hard to read even defendant's witnesses as contradicting infringement.

The ECA device uses two capacitors in the storage system rather than one as in plaintiff's patent. Hence, rather than switching a single storage capacitor back and forth from the power supply to the slow relay, in Thomson, in one position of the switching means, one capacitor (A) is being charged while the other (B), previously charged, is connected across the load relay, and in the other position capacitor (A) is connected across the load relay and capacitor (B) is being charged from the power supply.¹⁶ I do not find that this avoids infringement, but agree with Professor Frazier, who said, in response to a question I put to him about this difference. "I would say there isn't much of any significance." [4:25]

The significance which defendant seeks to give to the two capacitor features is that the Thomson circuit obviates one particular possibility of unsafe failure in plaintiff's patent, that of bridging between the contacts of the switching relay. I find, however, on all the evidence, that this particular failure is so unlikely that it is to be grouped with a number of other remote possibilities to which failsafe devices are subject without impairing safety as a practical matter.¹⁷ I further find that that defendant's

¹⁶ The Thomson circuit accomplishes this by utilizing diodes, components which allow current to flow only in one direction. Also, the switching means in the ECA device is a transistor, rather than a relay, although the Thomson patent shows both types of switching. Defendant has not argued that, in itself, this difference in the way that Thomson self-checks defeats plaintiff's infringement claim except as to one dependent claim, *see post*. Accordingly, I do not pursue this aspect further.

¹⁷ In other applications this possibility might be more significant. Defendant's (deposed) witness, Pascoe, who was professionally concerned with failsafe systems for railroad signals, testified that a danger there is exposure to a heavy surge of electricity, such as the track being hit by lightning. There was no evidence of such danger in furnace flame-out monitors.

device merely substituted, or more exactly, provided, a different type of a remotely possible failure. [4:93] But even if I should be mistaken as to this, to the extent that two capacitors may have effected an improvement I find they do not remove defendant's device from the scope of plaintiff's patent.¹⁸

Infringement: Feedback

Defendant's principal defense to infringement is that its device uses a nonfeedback system while, defendant claims, plaintiff's patent covers only feedback systems. An explanation is in order. There are two general methods of operating that part of the device that causes the event to be simulated, *i.e.*, of short-circuiting the railroad tracks, or, in this case, of charging the solenoid that causes the shield to be interposed between the flame and the sensor. One method is to have a motor-operated timer, hereafter external timing, that periodically releases current to the solenoid. The other is to operate the solenoid by using the pulsing of the main control circuit itself, a process known as feedback, that is, the "device responds as a function of its own output." [2:98] The diagram of a burner flame monitor, ante, would be converted into a feedback system by replacing the timer (2) with an additional set of contacts on the switching relay so that the solenoid is turned on and off as the switching relay itself switches back and forth.

¹⁸ I merely footnote, because defendant has apparently abandoned it in its briefing, the position sought to be advanced by defendant's first expert, that because there is always de-energizing, the system is not alternately energizing and de-energizing, as described in the patent. The fact of continuous de-energizing is well known in the art, and it would be contrary to a proper understanding to assert this as contradicting, or as confusing, the plain meaning of the patent language. I agree with plaintiff in this instance that the witness was making nonsense out of the patent. *See e.g.*, [4:20-21]. Nor do I find that in any respect the patent fails to meet the requirements of 35 U.S.C. § 112.

Defendant advances two contentions: first, the broad argument that in its entirety “[t]he Rowell patent application of 1954 was limited by the Patent Office to feedback,” [DB-1], and a narrower one that the particular claims involved in this suit were so limited. I reject both.

The broader contention is entirely unsupportable on the face of the patent. At numerous points, external timing is described as an alternative to the feedback system. Thus col. 9, lines 64-70 of the patent reads,

“The system of Fig. 8, moreover, utilizes the type of feed-back or output-to-input control discussed in connection with Fig. 1, *but, as in the case of any of the other figures, before and hereinafter discussed*, independent operation of the solenoid 171 from an external timing device, such as is utilized in Fig. 4, may, if desired, be employed.” (Emphasis suppl.)

See also col. 5:64 — col. 6:5; col. 11:35-36. Despite these plain words, defendant contends that an examination of the file of the Patent Office proceedings reveals that the patent examiner intended to limit the patent to feedback applications.

To adopt defendant's argument, that unambiguous language in a patent is to be disregarded in favor of dubious deductions drawn from an analysis of the file history, would violate universally accepted principles of interpretation, whether of patents, statutes, or contracts. Although defendant has had nine months to brief this case, one can search the many pages of argument in vain to find any authority for its position. Nor is the inference which defendant seeks to draw from the file wrapper fully supported. Although it is true that at some points the examiner indicated an interest in the feedback concept, and that he rejected certain non-feedback claims and accepted similar feedback claims, at every point he indicated that other nonfeedback claims appeared allowable. For example,

the examiner indicated that the original claims 12-17 and 27-31 were allowable, yet claims 14-17 and 27 do not appear to call for feedback, and, indeed, claims 27 and 28 are virtually identical except that claim 28 calls for feedback and claim 27 does not. The examiner may not have been entirely consistent, but any such inconsistency falls far short of the sort of compelling evidence one would expect from someone who offers the novel principle of interpretation that defendant proposes. Even more to the point, although defendant has filed three extensive briefs, it has offered no explanation of how the examiner could have intended to limit the patent to feedback and yet left frequent, unambiguous language in the patent reciting nonfeedback applications.

Nor, particularly when defendant is so indignant with respect to plaintiff's conduct,¹⁹ can I overlook defendant's own announced position during trial. While its counsel was going through the file wrapper with its engineer, Cade, I asked,

“The Court: [Is it] your contention that every claim in this patent was a feedback?

Mr. Pfund: I don't think that's true. I think what this witness has testified is that it is true with respect to the claims in issue. I think there are claims in the patent that are not feedback claims.” [6:25] Nonetheless, I am now presented with briefing as hereinbefore set out, and with defendant's request for finding, No. 18(b), “The Examiner only allowed claims which were restricted to the feedback arrangement.”

It is impossible to understand such conduct. I can only wish that there could be a self-checker for counsel.

Finally, and this may be thought the ultimate point,

¹⁹ I note, for the record, defendant's modest summary, that plaintiff's brief is “full of errors, misstatements, half-truths and misrepresentations.” [DRB 57.]

although I do not need to rely on it, it makes no difference, so far as invention, *vel non*, is concerned, whether the solenoid-operated shutter is timed externally or internally. Defendant is simply seeking a construction that results in a windfall. I accept the conclusion (except that I reject his reading of the patent, a subject on which I find him unqualified), of defendant's witness, vice-president and engineer, Cade, who said,

"There are no particular advantages of one system over the other except that a non-feedback system would not infringe a patent that uses a feedback system." [6:36]

If plaintiff had, in terms, limited its patent to feedback, it might find itself so restricted, even though feedback contributed nothing to the invention. But what defendant is seeking to do is, by contentions unsupported in fact or law, to excise extensive, plain language, and create a limitation that plaintiff never made.

I turn to defendant's separate contention, that the claims in suit, as opposed to the patent as a whole, are particularly limited by their language to feedback.

The principal independent claim in suit is claim 14.

14. Apparatus for continually checking a detector and associated system that is to detect the occurrence of a predetermined event, that comprises means for subjecting the detector to repetitive simulations of the occurrence of the said predetermined event, *means for alternately energizing and de-energizing the system synchronously with the repetitive simulations*, means for monitoring the alternative energizing and de-energizing of the system, and means for indicating the cessation of such alternations. (Emphasis suppl.)

Defendant contends that the provision for synchronization compels the conclusion that the apparatus described in this claim requires feedback, and that it is confirmed

in this conclusion by a reference to claim 15.²⁰ The argument self-destructs. Both parties agree that claim 15, not in suit does not provide for feedback. I, too, agree. This is the precise meaning of the emphasized language, "means for controlling the repetition of the simulations by the alternate energizing and de-energizing of the system to effect synchronization therebetween." The only difference between claims 14 and 15 is that the former substitutes for that language, "means for alternately energizing and de-energizing the system synchronously with the repetitive simulations." Presumably, a distinction is intended, and I find the distinction manifest. Claim 14 does not require the simulation of the event to be controlled by the alternate energizing and de-energizing of the system — and hence is a clear calling for external timing. Indeed, if it were not for this very distinction, the claims would be unavoidably redundant. I further find that the distinction is sufficiently manifest so that anyone minimally skilled in the art would read claim 14 as not requiring feedback.

Finally, defendant says that "synchronization" cannot, in fact, be achieved by external timing, so that, necessarily, feedback is required, even if not so stated. This contention rejects the principle that a meaning is to be given to words, even if not the normal meaning, which effectuates the user's apparent intent, and the further principle that, presumptively, two separate provisions, *i.e.*, claims 14 and 15, are not intended mean the same thing. Concededly, the normal

²⁰ Apparatus for continually checking a detector and associated system that is to detect the occurrence of a predetermined event, that comprises, means for alternately energizing and de-energizing the system, means for subjecting the detector to repetitive simulations of the occurrence of the said predetermined event, *means for controlling the repetition of the simulations by the alternate energizing and de-energizing of the system to effect synchronization therebetween*, means for monitoring the alternate energizing and de-energizing of the system, and means for indicating the cessation of such alternations. (Emphasis suppl.)

meaning of synchronization is identity in time. Synchronized watches read identically. But the word is not so narrow. Engines are synchronized by operating at the same rate. If two men were beating their drums, strictly, synchronized striking would mean that each hit the same number of times, and at the same time. However, it is not impossible to interpret the word loosely, as meaning simply striking the same number of times, and bearing a uniform relationship, one-for-one.

I turn to the testimony of Thomson. After describing the "sequence of events" involved in the operation of Dowling I, a nofeedback device, he was asked whether he would "consider that this cause and effect [the overall operation] could be described as synchronous?" His answer was, "By some definitions. . . . I am not sure of the exact definition of the word, but in that sense, the one follows the other, yes" [6:91-92]. Apparently, as an engineer, Thomson was not offended by a broad interpretation. Yet, in the face of this, defendant's counsel maintain that a meaning must be given to synchronous which interprets the claim as impossible of achieving what, by giving it a broader definition can be readily effected.²¹ The law is the other way.

Quite apart from the general presumption that sense is intended, a study of the specifications discloses that, although not spelled out as exactly as one might wish, this loose meaning of synchronous is the apparent concept of the patent. Great attention is given to Fig. 1. Although Fig. 1 is an illustration of feedback, it is constantly referred to throughout the patent, not in terms of its timing method, but of its basic operation. This operation is fully described without any reference to the total synchronization

²¹ While, by its requests for rulings, defendant has not abandoned it, I need not deal with defendant's unsound attempt, *see, e.g.*, [3:26] to play with the word "system."

that the strictest meaning of the word indicates. *See, e.g.*, col. 3:6-14; col. 4:74 — col. 5:5: The fact, of which defendant makes much, that in col. 5:66-70, the patent speaks of synchronization in connection with a there described feedback device, does not mean that other devices are excluded from plaintiff's intended definition, as the next sentence of the patent, describing a nonfeedback application, makes clear.

Finally, we observe that complete synchronization within defendant's strictest meaning cannot be achieved even by feedback. Defendant's witness, Cade, was obliged to concede that even with feedback there is a slight lag in the functioning of the circuit, preventing a total correspondence. [6:39].

On all the evidence, the patent, and the file wrapper, I construe the claims in suit as covering external timing. Indeed, I am so satisfied that defendant's extensive, complicated attempt to draw inferences from the file history that make nonsense out of the language of the patent as finally allowed, is an imposition on the court, that I intend to deal with the subject when I come to costs.²² This disposes of defendant's defenses to infringement of claims 14, 17, 20, 24, 25, and 26. As to certain other dependent claims, defendant advances other defenses.

²² In this connection I make a supplementary finding. Defendant's interpretation of the patent as excluding feedback altogether, in spite of its plain language and the illustrative figures, and its contention at the trial that claims 14 and 15 equally required feedback, was not only unwarranted, but grossly so. Although defendant was well aware of plaintiff's interest in royalties (and did not then know of Dowling II, Ludwig and Werner, on which, principally, it now bases its ultimate defense of invalidity,) it did not even seek advice of outside patent counsel before proceeding to manufacture and market its device. Defendant's principal officer testified, albeit in another connection, that while defendant was customarily represented by a prominent Boston firm, its first contact with that firm, so far as this patent was concerned, was when it was served with the complaint — at which time it found that firm disqualified. Whether defendant in good

Defendant asserts that its device does not infringe claim 18 because that claim requires that the system be energized upon the detection of the predetermined event, while the ECA device is de-energized upon detection. This I do not consider a sufficient difference to avoid infringement; if, indeed, there is any difference, a matter which turns on what one considers the event. Defendant's argument here is reminiscent of a more general contention, which I also reject, that plaintiff's patent covers devices to detect the appearance of radiation, not the disappearance of radiation.

The defense to claim 19 is somewhat more substantial, though I also reject it. Claim 19 requires that the warning signal be given only if the "cessation of alternations . . . has continued for a time greater than the period or periods of the said alternations," the alternations referred to being "the alternate energizing and de-energizing of the system" of claim 14. In the accused device, the on and off periods are of different duration, the full on and off cycle taking six seconds. The warning signal, however, will be given less than six seconds after the burner goes out. Defendant argues that this precludes infringement of claim 19. Defendant is assuming that the "period or periods" referred to in the claim is the full on and off cycle; however, the phrase might well be taken to refer to the duration of the on *or* off phases. So read, defendant's device infringes claim 19. Although its briefs nowhere mention this possible interpretation, I can see no other way to explain the testimony of defendant's witness Thomson, also ignored in its briefs; who flatly stated that the condition of claim 19 did apply to his device. [6:111]

I do agree with defendant that claim 21, requiring the faith believed that it was not infringing is beyond me to say on this record, but I find that it was at least careless, if it so believed, an important matter bearing on costs. *Cf. Russell Box Co. v. Grant Paper Box Co.*, 1st Cir., 1953, 203 F.2d 177, 183, *cert. denied*, 346 U.S. 821.

switching means to be "relay-controlled," is not infringed by the ECA device, which uses a transistor switch.

Claim 23 requires that the "energy storage means," *i.e.*, the capacitor (11) in my diagram of plaintiff's device, be switched back and forth from the power supply to the load. Defendant contends that in its device the storage means is permanently connected to the load, and hence the claim is not infringed. I reject this argument. The operation of the Thomson two capacitor circuit has already been outlined. Each of the capacitors serves two functions, alternatively. Thus, functionally, it is as if there were four capacitors in two circuits, both of which circuits conform to the conditions of claim 23.

Claim 31 I do not find infringed, since it calls for a "radiation-producing means" in the apparatus to simulate the predetermined event, and the Thomson burner monitor does not have such a means, nor, for that matter, would a plaintiff burner monitor.

In sum, I reject defendant's principal infringement defense—that the patent employs only feedback—as frivolous, and I find that claims 14, 17-20, and 22-26 are infringed.

Validity

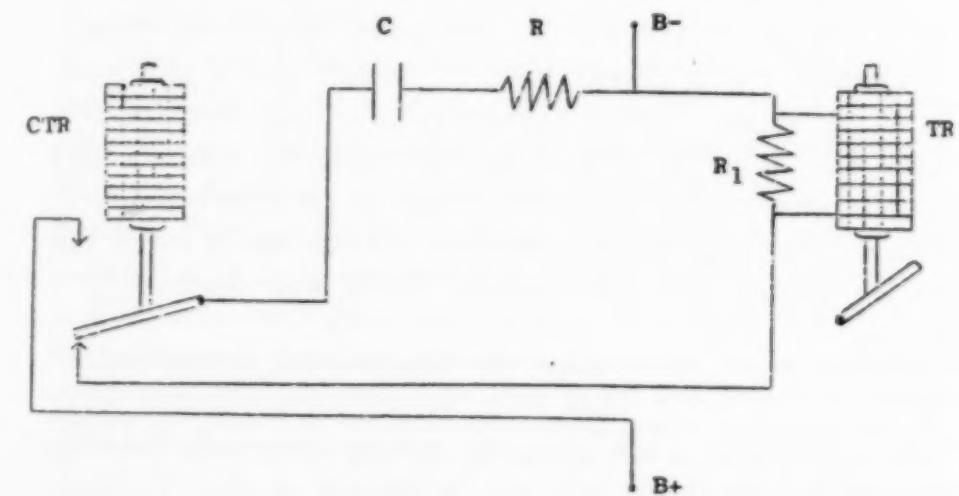
In attacking validity, defendant first claims that the patent was anticipated by one or more prior patent. This section 102 defense, however, must be made out by a single invention. *See Columbia Broadcasting Sys. v. Sylvania Elec. Prod., Inc.*, 1 Cir., 1969, 415 F.2d 719, *cert. denied*, 396 U.S. 1061. As will become apparent in my discussion of the prior art, I find no such single anticipatory invention. Accordingly, I pass to the question of section 103 obviousness, *viz.*, whether plaintiff, as a hypothetical individual, reasonably skilled in the art, and having all knowledge thereof, did something substantially more than pick, cull, and assemble to achieve a predictable device. I recognize that it has been said that a combination patent must achieve

"an effect greater than the sum of the several effects taken separately," see *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 1969, 396 U.S. 57, at 61, but I believe this language must not be taken too literally. In a sense, by hindsight, a combination patent will always achieve, strictly; no more than the sum of the parts. I believe that invention may lie in perceiving the possibility and making the selection so as to achieve something not a priori, mechanically, obvious. See *Charvat v. Commissioner of Patents*, D.C. Cir., 1974, 503 F.2d 138; *Associated Folding Box Co. v. Levkoff*, 1 Cir., 1952, 194 F.2d 252, 257. On this basis I consider "the scope and content of the prior art . . . [the] differences between the prior art and the claims at issue . . . and the level of ordinary skill [in this art]." *Graham v. John Deere Co.*, 1966, 383 U.S. 1, 17.

The question of obviousness divides into two parts: whether the self-checking circuit of plaintiff's patent was more than an obvious improvement over the prior art, and whether it was obvious to use such a circuit in a flame-out monitoring device in a manner that achieved precise simulation of the predetermined event that the monitor is to detect.

The first of these questions is easily answered, for the simple fact is that the circuit used in plaintiff's patent is identical to circuits disclosed in the prior art. Pascoe, an engineer concerned with the design of circuits for railroad signalling devices, deposed concerning various circuits employed over the year to operate signals to indicate the presence of a train in a section of track. Basically, such devices operate by putting a current through the rails of a section of track and connecting a device to the rails in such a way that the warning light goes on, indicating the presence of a train, when the device does not receive current from the rails because the train has made a short circuit between the two of them. In order to make such

devices "failsafe,"²³ rather than sending a steady current through the rails, pulses of electricity, or "code" to use the jargon, are sent, and the device is designed such that the signal is given if the pulses are not received, either because a train is present or because something in the device has gone wrong. Various "code following" circuits have been employed in the past, those of interest here being what Pascoe called "capacitor decoders." Pascoe drew a diagram of such a circuit, which he testified had first been used in the late 1940's. The diagram was as follows, redrawn somewhat to facilitate comparison, Pascoe Dep., Def. Exh. 3, Fig. I,



²³ At the trial I took the liberty of recounting what, in my experience, was the simplest self-checking monitor, the European railroad crossing alarm of the 1920's. In this device an electric bell rang continuously at the crossing, *except* when a train was in the block. A train would short-circuit the current, causing the bell to cease. Correspondingly, the bell would stop if there was a failure of current, a break in the connections, or a defect in the bell itself. A traveler, not hearing the bell, would know that a train was in the block or that the signal was defective, and would be warned to be on the lookout. "Affiche. Danger si le tam-tam n'opere pas." It would seem to me that this was a failsafe system. It would also seem not a satisfying one.

Inspection reveals this circuit to be identical to plaintiff's circuit, diagrammed ante. CTR is a relay which receives the code pulses, analogous to plaintiff's switching relay (D), thereby causing a capacitor C to alternately charge and discharge into a slow release relay TR, analogous to plaintiff's load relay (G). The only difference is that in '214 the load relay is made slow release by attaching a capacitor across its coil, while Pascoe's Fig. 1 uses a resistor. However, according to the testimony of both Pascoe and Professor Frazier, this would not matter; a resistor, a diode, or a capacitor could be used. [Pasc. Dep. 28, 36; 3:135-36]

This circuit is recited as prior art in the Dodd patent, A. E. Dodd, Apparatus for Detecting Recurrent Circuit Operation, No. 2,659,880, Nov. 17, 1953,²⁴ and is also used in C. M. Hines, Circuit Integrity Indicating System, No. 2,605,334, July 29, 1952. See Def. Exh. G; 4-68. I find nothing nonobvious about the circuit of plaintiff's patent.²⁵ The remaining question is whether the manner in which the patent applies this self-checking circuit was obvious.

²⁴ Dodd is an improvement on the capacitor decoder circuit drawn by Pascoe, and is also used for railroad signals. Essentially, the improvement is that Dodd eliminates the possibility of unsafe failure if bridging occurs across the contacts of the code following relay CTR. See n.17 ante.

²⁵ Defendant also contends that plaintiff's patent, even if narrowed as I have indicated, is invalidated by Dowling II, in particular by its much mooted Fig. 8. I am unimpressed by defendant's witness Thomson's convoluted attempt on cross-examination to show how Dowling II anticipates plaintiff's patent [7:65-72]. This attempt concluded with his lauding Dowling's Fig. 8 as "so beautiful . . . such utter simplicity," which prompted counsel to ask:

"Question: Why don't you use it in the ECA equipment, it's so simple and beautiful?"

Answer: Because it isn't necessarily practical." [7:72]
Cf. O'Henry, *The Gentle Grafter* (1908) ("beautiful and simple as all truly great swindles are"). The value of Fig. 8, after much study, did not persuade Honeywell that it need not take what has already been mentioned as an expensive license.

It could not be inventive to adapt the capacitor decoder circuit from devices such as railroad signals to devices to monitor the presence or absence of light, as from an oil burner.²⁶ *Cuno Eng'r Corp. v. Automatic Devices Corp.*, 1941, 314 U.S. 84; *Exer-Genie, Inc. v. McDonald*, 9 Cir., 1971, 453 F.2d 132, cert. denied, 405 U.S. 1075; *Buffalo-Springfield Roller Co. v. Galion Iron Works Mfg. Co.*, 6 Cir., 1954, 215 F.2d 686, 688. Nor could it be inventive to effect the pulsing needed to utilize the self-checking circuit by using a shield or similar light occlusion device to cause light periodically to strike the detector. Such interrupters, besides being shown in both Dowling patents, are recited as prior art in two German patents, Werner, Circuit for Signal Devices, German Patent No. 696,166, published Aug. 15, 1940, and Ludwig, Photoelectric Security Installation, German Patent No. 898,564, disclosed Oct. 22, 1953, both of which are devices to detect the presence of an intruder in a monitored space using an interrupted light beam.²⁷ Indeed, Pascoe testified that he had used a capacitor decoder circuit in connection with a light source, interrupter, and detector to signal the presence of a train in a section of track on a steel bridge where the usual system of running coded pulses through the rails could not be used. Pascoe's dates are not too clear, but even without his testimony, I rule as matter of law that it would be obvious to use a self-checking circuit of the type used in the patent

²⁶ Plaintiff impliedly concedes as much by bringing this suit, since, as previously stated, the patent does not disclose the application of the self-checking system to burner flame monitors.

²⁷ Defendant sought to introduce evidence that it had developed a similar light interrupter intrusion detector prior to plaintiff's patent. I stated that I would defer ruling on plaintiff's objection that this had not been mentioned in the pretrial notice. Given that there is some question about the chronology, that I have already been indulgent towards defendant's failure to comply with the notice requirement, and that the evidence would apparently be merely cumulative, I now sustain plaintiff's objection.

in connection with a light interrupter and detector to monitor a light source.

Plaintiff contends, however, that invention is to be found in the patent's teaching that the precise predetermined event which the device is to monitor should be repetitively simulated to produce the checking pulses. The purpose of this is fully to exercise the sensor by exposing it to the precise stimulus it would receive if the monitored event actually occurred. Plaintiff contends that it was the first to do this, and that so doing makes possible truly failsafe operation.

One of the difficulties with plaintiff's position is determining just how literally one is to take the notion of "precise simulation." For example, in connection with the use of the patent for railroad signals, plaintiff contends that precise simulation is achieved only if the code pulses are produced by periodically creating a short circuit across the tracks, such as would occur if a train were present.²⁸ Thus, plaintiff asserts that railroad signal circuits, such as Dodd, which produce coded pulses by opening and closing the circuit from a battery to the rails, rather than short-circuiting it, do not effect precise simulation. However, plaintiff was unable, despite vigorous efforts, to produce any evidence indicating how this makes any difference. In cross-examination of Pascoe plaintiff conjured up a contrived possibility of unsafe failure in Dodd, but it does not appear that the plaintiff's device would avoid this possibility of unsafe failure. As Pascoe testified, "no matter what circuits you have, if you get proper grounds and proper shorts at the proper place, you have had it." An inconsequential modification of an old device, coupled with a new label, does not amount to patentable invention. Inventiveness of counsel in describing the device is not the same as invention in discovering it.

²⁸ As defendant observes, plaintiff does not require that a train actually be placed on, and removed from, the tracks.

As applied to a burner flame monitor, plaintiff asserts that precise simulation is effected by blocking off light from the flame to the detector. So far as checking the sensor is concerned, this is true. Defendant responds that numerous previous devices have employed light interrupters. Plaintiff parries with the observation that while such devices did use interrupters, they did not affect a precise simulation of the events which those devices were designed to monitor. Thus, plaintiff says, the Dowling patents, which were concerned principally with monitoring variations of light, such as "detecting haze or fog," do not simulate a variable event, but, rather, use a periodic total interruption of the light. Similarly, the intrusion monitors, such as Werner and Ludwig, do not call for interposing an object of the sort which might intrude, but simulate the intrusion by blocking, or deflecting, the light beam, or turning the light on and off. But even were I to agree with plaintiff that these devices do not precisely simulate the predetermined event, the difference would not assist it.

Though it may be true that in prior light occlusion devices the monitored event was not the light itself, and thus blocking the light might be said not to amount to precise simulation, I hold that it would not be inventive to adapt a device that occluded a light in order to effect a simulation of a monitored event which was not the light, so that it would monitor the light itself. If one thinks of three elements in a line, a light, an interrupter, *e.g.*, a shield, and a sensor, it is but an obvious mechanical variance to use the light to test the presence, *vel non*, of the shield, or the shield to test the presence, *vel non*, of the light. Nor is plaintiff aided by its pointing out that in devices in the prior art designed to monitor variations or partial blockage, interrupting the light did not amount to a full simulation. When a device is used to monitor another event, here a

flameout, using means, such as a disc, or shutter, known in the prior art, to occlude the light, the simulated occlusion of the flame will, in such instance, ipso facto effect not a partial simulation, but a total simulation of the precise event. I find no invention. Even if plaintiff could be thought to have "discovered" the value of effecting precise simulation, this discovery, under such circumstances, was not inventive, but merely the recognition of an attribute of an existing device. *Cf. General Elec. Co. v. Jewel Incandescent Lamp Co.*, 1945, 326 U.S. 242, 248-49. I conclude, accordingly, that "precise simulation" does not save the patent in suit, and I hold that, at least as adapted to a nonfeedback burner flame monitor, the patent is invalid.²⁹

Reprise

Costs, Damages, and Attorneys' Fees

At the time that Mr. Jenney completed defendant's presentation except for "at least one witness to testify on matters . . . not directly related to the strictly patent aspects of the case," defendant had introduced the evidence which, on analysis, I have ultimately found to invalidate the patent. Thereafter I was inundated with irrelevant matters and contentions that were frivolous, or worse. Mr. Jenney is highly competent patent counsel. My occasional comments about his procedure during trial, of which defendant makes much in its brief, indicating it as criticism, did not go to the substance of defendant's basic defenses, but to what I believed to be excesses and over-inclusion. It is ironic that defendant should cite such criticism, if

²⁹ For some reason, not discernable to me, defendant has devoted much time and effort attempting to show that the feedback applications of the '214 patent are invalid. Defendant's infringing device is conceded by all not to employ feedback, and therefore this issue is obviously not presented, even for the purpose of removing the patent as a "scarecrow in the art," since it has already expired.

it should be so labelled, as partial justification for the additional case it thereafter put on through its new counsel. But, far more important, Mr. Jenney had lived with the case for many years. If, three weeks before trial, Metcalf had concluded, as he said, that it was the wrong approach, it was incumbent upon him, then and there, truly to discharge Mr. Jenney and to acquire new counsel at once. I deeply regret that I was considerate enough to give defendant what was described at the trial as a second bite at the cherry. But certainly this was not an absolution in advance for introducing defenses that I can only regard as grossly unwarranted, let alone following them up with the most extraordinary briefing in my experience. Defendant's president expects me to believe that Mr. Jenney's every appearance in court was contrary to his express instructions. Defendant's counsel expect me to believe that when I was told that non-patent counsel was to be principal trial counsel to examine the witnesses I was meant to understand that he was to be present essentially only in a supervisory status. Defendant wants me to find that although the patent says repeatedly that one may employ feedback or external timing, the latter is to be read out because the file wrapper purportedly indicates that this was the examiner's intention. I need not go on. It is bromidic to invoke Alice in Wonderland, but at least that was a good story, and I may add, it was not compulsory reading.

The imposition on plaintiff's in-court time, and briefing time, is obvious. The imposition on the court's, not only in-court but out-of-court time, as this opinion must make equally plain, was substantial. The latter seemed, however, unavoidable, especially in light of the court of appeals' preference that district court decide both infringement and validity.

With this background, defendant's claim that it should receive attorneys fees, and, perhaps, antitrust treble dam-

ages,³⁰ is as uncalled for as some of its other conduct. The shoe is on the other foot. I turn, accordingly, to the question of special relief to the plaintiff.³¹

By 35 U.S.C. § 285, in "exceptional" patent cases the court is authorized to award counsel fees to "the prevailing party." A perhaps more customary statute of this nature does not look to who prevails in the case as a whole, but considers the question issue by issue. *See, e.g.*, Mass. G.L. c. 231, § 6F, as added by Mass. Acts, 1976, Ch. 233; *Pan American World Airways, Inc. v. Ramos*, 1st Cir., 1966, 357 F.2d 341 (Puerto Rico statute). In light of federal recognition of the principle, of which defendant has been a beneficiary, *Electronics Corporation of America v. Republic Industries*, 1st Cir., 1974, 507 F.2d 409, *cert. denied*, 421 U.S. 948, that exceptional conduct, generally, permits the imposition of attorneys' fees; *see F.D. Rich Co. v. Industrial Lumber Co.*, 1974, 417 U.S. 116, 129, and the court of appeals has applied this on an issue basis; *see, e.g.*, *McEnteggart v. Cataldo*, 1st Cir., 1971, 451 F.2d 1109, 1112, *cert. denied*, 408 U.S. 943, I will so regard it here

³⁰ By this time it will surprise no one if I observe that defendant at one point appears to be presently requesting treble damages, Defendant's Proposed Conclusions of Law, No. 15, and at another point appears to disclaim such a prayer, absent a new trial. Memorandum in Support of Defendant's Motion to Amend, 16.

³¹ I merely footnote the question whether, had defendant's conduct been beyond reproach, it would be entitled to special relief on the ground that plaintiff's claim that the patent was valid was exceptionally weak. In my opinion, there would be a short answer to this — the fact that Honeywell, knowing all that it did, was willing to take a license under which it ultimately paid some \$450,000 in royalties. (Nor do I accept defendant's unsupported claim that this was for the other licensed patents. Honeywell's device reads exactly on '214.) This is not a case of plaintiff's simply seeking to establish invention by commercial success. Honeywell's acceptance of a license was a significant opinion, against its interest. Even though I do not accept it, I would not find plaintiff's assertion of validity so unwarranted as to justify special relief.

without determining whether section 285 may be so interpreted.

Maintenance of a meritless position, *Russell Box Co. v. Grant Paper Box Co.*, n.23, ante; *Electronics Corporation of America v. Republic Industries*, ante, and improper briefing, *Tardif v. Quinn*, 1st Cir., 12/16/76, warrant special orders on costs. Under all the circumstances, I assess counsel fees against defendant in the amount of \$5,000, and, in addition, the judgment dismissing the complaint is to be without costs to defendant. If this result be thought large on an hourly basis for plaintiff's counsel's lost time, I construe the award of costs or fees as having penalty aspects. *Cf. Tardif v. Quinn*, ante. So viewed, I consider this result modest.³²

Judgment will be entered dismissing the complaint, with costs taxed in favor of the plaintiff at \$5,000.

/s/ BAILEY ALDRICH
U.S. Circuit Judge*

*Sitting by designation.

³² Because in a sense, to proceed against defendant for contempt for instructing counsel not to start trial the morning of December 30, as I stated I intended to do, but which defendant asked to have await disposition of the substantive case, see [7:206], might be thought a duplication, I now will not do so, but if this award of counsel fees should be vacated on appeal, I shall institute the contempt proceedings hereafter. (Or, if defendant wishes, I will proceed forthwith — I do not wish to deprive it of a speedy trial.)

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

Civil Action No. 68-881-F

SCULLY SIGNAL COMPANY,
PLAINTIFF,

v.

ELECTRONICS CORPORATION OF AMERICA,
DEFENDANT.

JUDGMENT

February 8, 1977

ALDRICH, *Senior Circuit Judge.**

After trial and in accordance with the Opinion of the Court, filed on February 7, 1977, it is

ORDERED:

United States Patent No. 2,798,214 is invalid as adapted to a nonfeedback burner flame monitor; Claims 14, 17-20 and 22-26 are infringed by Defendant; Judgment is entered for the Defendant, and Complaint is Dismissed.

Counsel Fees are assessed for the Plaintiff against the Defendant in the amount of \$5,000.00. No other costs.

By the Court,

(s) HOPE K. CONNELL, *Deputy Clerk*

(s) BAILEY ALDRICH

*Senior Circuit Judge**

*Sitting by designation.

APPENDIX B

The Constitutional Provision

ART. 1, SEC. 8. The Congress shall have power . . . To promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries.

35 U.S.C. § 102. Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless—

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application filed more than twelve months before the filing of the application in the United States, or

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or

(f) he did not himself invent the subject matter sought to be patented, or

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining

priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

35 U.S.C. § 103. Conditions for patentability; non-obvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Rule 15, Federal Rules of Civil Procedure

(b) *Amendments to Conform to the Evidence.* When issues not raised by the pleadings are tried by express or implied consent of the parties, they shall be treated in all respects as if they had been raised in the pleadings. Such amendment of the pleadings as may be necessary to cause them to conform to the evidence and to raise these issues may be made upon motion of any party at any time, even after judgment; but failure so to amend does not affect the result of the trial of these issues. If evidence is objected to at the trial on the ground that it is not within the issues made by the pleadings, the court may allow the pleadings to be amended and shall do so freely when the presentation of the merits of the action will be subserved thereby and the objecting party fails to satisfy the court that the admission of such evidence would prejudice him in maintaining his action or defense upon the merits. The court may grant a continuance to enable the objecting party to meet such evidence.

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